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Teaching Batting Funda-
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Winter and Early Spring

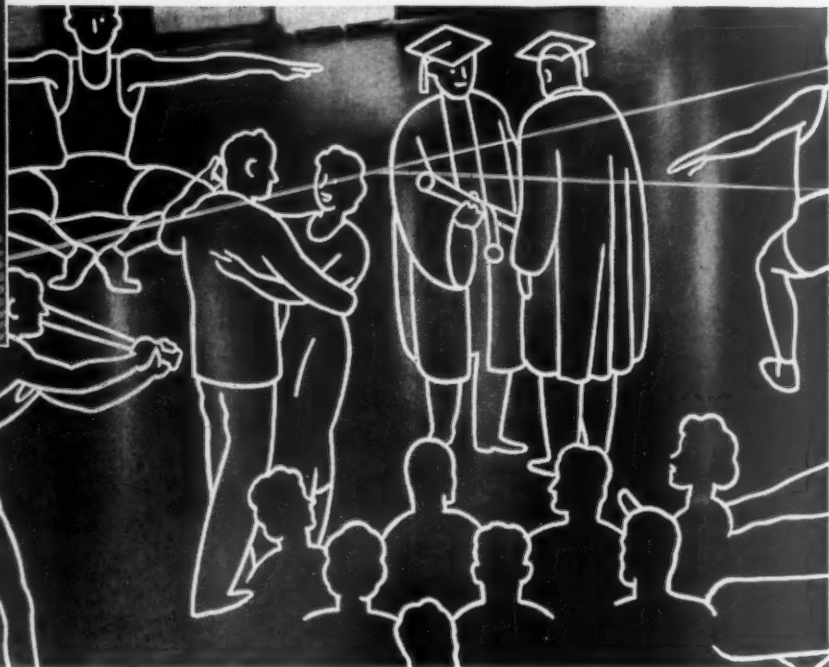
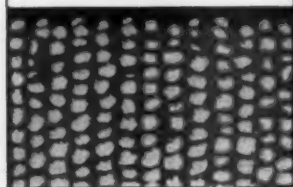
Eugene Lambert

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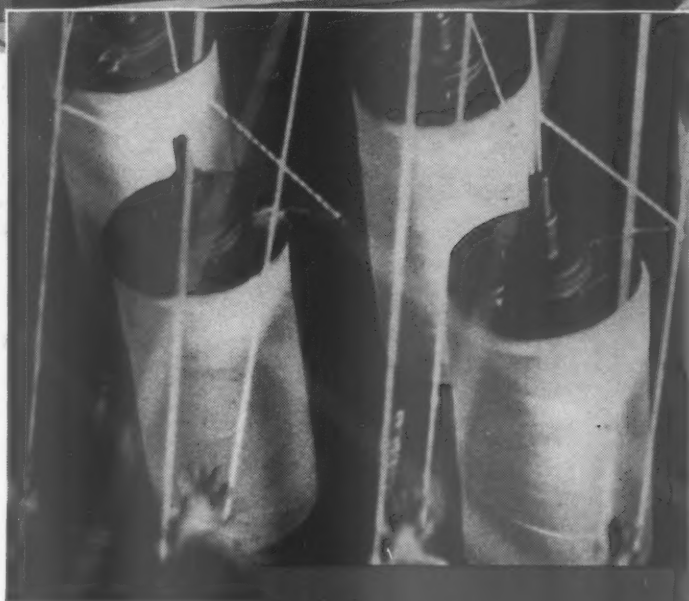
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Dana X. Bible won six championships in the Big Six during his eight years at Nebraska. Before going to Nebraska he piloted Texas A. and M. to five Southwest Conference titles.

Burt Ingwersen, one of the greatest linemen in Illinois football history, is recognized as one of the foremost line coaches in the country.

Dutch Lonborg has produced some of the outstanding basketball teams in the Big Ten in recent years. His teams have won two conference titles and have always been formidable contenders.

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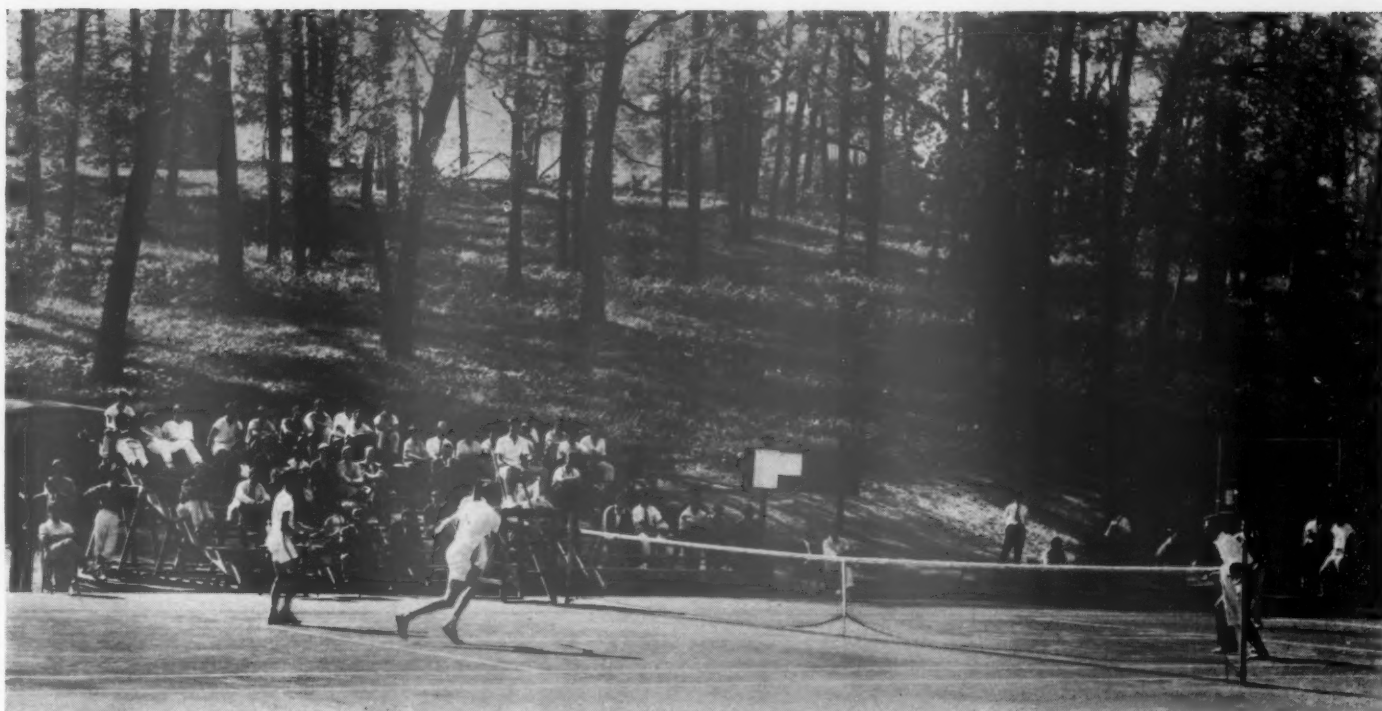
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An early round doubles match in the National Preparatory School Tournament held last May on the courts of Kenyon College.

Tennis Practice during the Winter and Early Spring

*By Eugene Lambert
Kenyon College*

TOO many tennis players lay away their rackets with the first frost and think not of them again until spring. This custom is not conducive to constant improvement because, in the development of a high level of skill in making tennis strokes, it is very important that some intelligent practice be obtained every day in the year.

Helen Wills Moody once remarked that although she did not usually go in for long sessions she rarely failed to play at least one set every day and thought this constant regularity of practice had much to do with her development. The year around tennis weather is without a doubt a big factor in the preponderance of stars coming from certain sections of the country. Recent statistics show that during the 1936 season Californians won seventeen of our twenty-five major championships.

Possibilities of Indoor Practice

Voluntary idleness for the winter period is a large stumbling block in the path to success of any player. Most localities afford some type of indoor practice which can be made a fairly satisfactory substitute for outdoor play, and failure to get

outside may well prove a blessing in disguise for an ambitious youngster.

It is my observation that most club and school players spend too much time in trying to defeat a rival and give too little attention to work on the individual fundamentals of their game. Intelligent

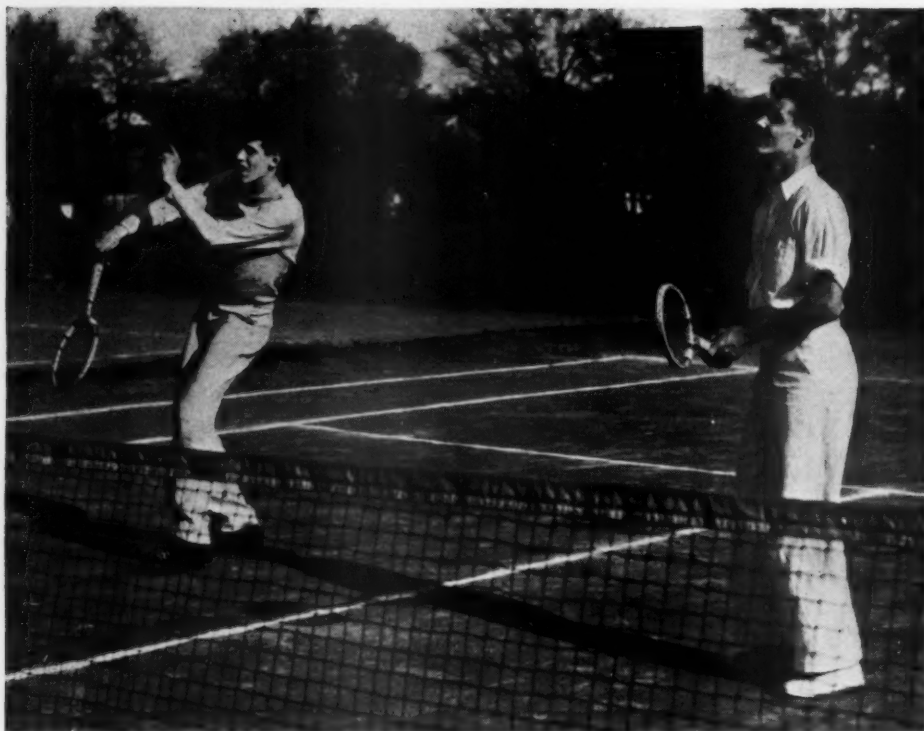
LAST month, Eugene Lambert of Kenyon College wrote on basketball. This month he writes on tennis, a sport in which he is equally at home. While attending the University of Arkansas, from which he graduated in 1929, Lambert won eight letters in two years—in football, basketball, track and tennis. At the present time, he heads the Kenyon coaching staff in three sports: football, basketball and tennis. Under Lambert's supervision, the Kenyon College tennis team made a tournament tour of the country last summer, winning a number of significant honors, among them the Western Junior Singles and Doubles Championships. Interest in tennis is running high at Kenyon, and the College is becoming a center of tennis interest. In addition to collegiate meets, the National Preparatory School Tournament was held on the Kenyon courts last year.

coaches of most sports spend the major part of the early season on drills calculated to improve specific skills. The "part method" is the most successful way to teach the majority of sports, and tennis is no exception. Development of the wrong methods of stroking is often the result of too much competition under pressure and too little attention to correction of mistakes.

The off season is a good time to experiment on grips and different ways of making strokes. It is possible during this period for the player to give his game a thorough going over and improve parts of it known to be defective. Attention to detail should be encouraged. There is a certain stage in the development of every player when he must become his own coach, and intense interest in grips, footwork, swing of the racket and the effect of these on his control of the ball indicates he is on the right road to success.

Benefits of Intensive Practice

Tilden has said, "Practice may not make perfect but it will make many a fine tennis player if intelligently done." Tilden practically made his own backhand during the winter on an indoor court after it was in-



Joe Davis (right) and Burch Tucker, Jr., of Montgomery Bell Academy, Nashville, Tennessee, winners of the last National Preparatory School Tournament, held on the courts of Kenyon College, May, 1936. In addition to winning the doubles title with Tucker, Davis won the singles championship.

dedicated to him that he would receive Davis Cup consideration the following spring.

La Coste lacked the natural ability of Cochet but, having more industry, rained tennis balls off the walls of his room until he developed ground strokes later considered flawless by tennis critics. A few years ago, a Texas high school boy spent the first year of his tennis career batting a ball against a wall and came out to win or place second in the state scholastic tournament for three consecutive years.

Wall Practice

It is estimated that a million and a half people play tennis in the United States, and half this number have championship aspirations. Champions do not come along very often and when they do there is usually a story of hard work and intensive practice behind their achievements. In the making of a champion, no known recipe or established rules exist and, if it is true as has been often said that it takes ten years to get to the top and seven years to get in the First Ten, a youngster should take advantage of every opportunity to extend his knowledge of the game and improve his control over the ball.

I set forth here some of the ways we work for improvement during the winter months and the early part of the outdoor season. Some time spent on these drills in the early season would probably be more worth while than continual match play among team mates. I speak of them as winter practice drills because they may be adapted to almost any kind of gymnasium.

All the details of stroke technique will not be expounded here. This information may be obtained authoritatively from other sources. I will, however, mention some technical essentials which I consider important in practicing against a wall. Ground strokes, service, volley and half-volley may all be improved by this practice.

In almost every locality some kind of wall may be found which will stop a ball and return it. A handball court serves the purpose very well, but the exercise should not degenerate into a squash practice. In a four wall court, too often the player becomes a leaping gazelle, stroking the ball from any position without regard to footwork, timing or balance. There is, of course, very little carry-over from this activity to that of a regular game of tennis. A gymnasium wall is sometimes productive of better results for the beginner because it becomes necessary to give some attention to accuracy; otherwise too much time is spent in chasing stray balls.

Service

Best results are obtained by practicing one specific fundamental at a time. About five or ten minutes at the beginning of a session should be spent on service. Position of the feet, the grip and the swing must come in for proper attention. If the ball is thrown too low, a push is the result, with no force or rhythm in the shot. If it is thrown too high the server will be off-balance in reaching, and a loss of accuracy and power will be the result. Practice and experimentation will deter-

mine the best height. Probably the orthodox slice service should be mastered first by beginners. The more advanced players may work on the American twist.

A certain amount of spin is necessary for control of the ball in making these two services, and the proper arch of the back and use of the wrist are essentials to be cultivated. Many serves may be made in a short period, and after a few weeks of this practice definite improvement should be noted. Hard balls will be hit with less and less effort. Freak deliveries such as the reverse twist and underhand cut should be avoided, as results from their use do not justify time spent in mastering them.

Serving is one inside activity that will carry over to the outside game almost 100 per cent. An effective serve is a formidable weapon against any adversary and should be assiduously courted by the rising tennis aspirant.

Backhand

Development of a strong backhand should perhaps be the next objective. For a ten minute period only backhand shots are made. The ball is knocked against the wall in such a manner that it will give a suitable return for making a backhand shot. Then the player should make every effort to carry out the stroke properly. Even if sideways to the net, too many players have their feet too close together to permit a pivot of the weight into the stroke. The weight should not be permitted to shift before the ball has met the strings nor should the weight shift be delayed until the ball has left the racket. The weight shift and impact of the ball on the racket should be simultaneous; otherwise the weight is lost to the stroke.

It is remarkable how few players make this weight shift properly. Many make the stroke with the arm only, and the ball



Eugene Lambert

is on its way before the weight goes to the front foot. When the stroke is made with the arm only, the shoulder does not go around far enough to permit a proper follow-through. The follow-through in the stroke is second in importance only to watching the ball. Practice on the forehand proceeds along the same plan as that for the backhand.

Overcoming Common Faults

Another common fault of beginners is lunging at the ball, which gives the appearance of hard work, while results are lacking. It is much better for the player to set the feet properly, watch the ball carefully and wait for it to come to him.

Many players have not discovered that good timing can best be learned by hitting the ball at a medium pace, and that accuracy must precede speed. In the making of ground strokes from a set position a good way to insure proper timing and weight transference is to start the stroke with the shoulder instead of having it half made with the arm before the shoulder starts to move.

It is not uncommon to see players of otherwise considerable skill who make their strokes with the knees stiff and rise on their toes in attempting to lift the ball. Often an immediate improvement will be

noted when the boy crouches with a good bend in the knees and keeps this position throughout the stroke. This position will do much to encourage the proper method of making the stroke. It is important to keep the body low on almost any kind of shot and bring the eyes nearer the level of the flight of the ball.

A sound grip should, of course, be practiced and the stroke started and finished in about the same plane. After each stroke or two the ball should be stopped and the procedure started over again; otherwise, forehands, half volleys and other strokes will be mixed in and very little practice on a specific fundamental will be accomplished.

In working on the volley and half volley, it is well for the player to move within fifteen feet of the wall and play all the shots either in the air or as pick-ups.

Technique of Indoor Practice

Sometimes the gymnasium or basketball floor is either not large enough or not suitable for a regular court. Because we have a short court, we usually put up the net about one third of the distance from one end, thus giving plenty of room for one person to maneuver in making ground strokes; the other person stays

at the net to volley. A regular size court is of course better to work on.

From this set-up a number of stunts putting emphasis on certain fundamentals is possible. First, one person returns all shots directly at the other in an attempt to keep the ball in play as long as possible. In the beginning, the ball will probably go astray after half a dozen exchanges, but gradually control will improve and the better players, we have found, often play the ball across the net 50 to 100 times without missing.

Practice in Volleying

Next the volleyer begins to drop his shots to first one side of the court and then the other. The shots are not made hard and the base-liner gets much good practice working back and forth across the end line and hitting on the run. After a short session of this, the conditions are reversed and the volleyer does the running. The ball is played from one side of the net to the other by the base-liner, sometimes easily and sometimes hard, thus giving the net man practice in retrieving the ball and keeping it in play.

With the same arrangement, the back man should work into the net occasionally, trying to keep his shots close to the

(Continued on page 38)

Power Tests for Football Players

By M. L. Clevett
Purdue University

FOR a number of years, M. L. Clevett, who is one of the outstanding men in physical education work in the Western Conference, has been Director of Intramural Athletics at Purdue University. In this article, he outlines briefly the work he has been doing in measuring the native power of athletes. While Mr. Clevett has not collected enough data to indicate the final answers to the questions involved, he has shown the way. It is to be hoped that he will further pursue his studies in this field.



Norms were established by testing 700 Purdue University freshmen, who pulled the dynamometer 30 feet against time. Purdue freshmen now know their horsepower.

THE Purdue Power Tests, conducted on the Boilermaker campus last spring, were designed to measure the horsepower developed by a charging lineman. They proved rather conclusively the difference between correct and incorrect form. Native power, it was shown, is one thing; the ability to use it is another. Thus, the lineman who carelessly reaches out with long strides, instead of digging in with short choppy steps with feet well apart, may be shown in figures how little power he develops and how a smaller man, executing the fundamentals

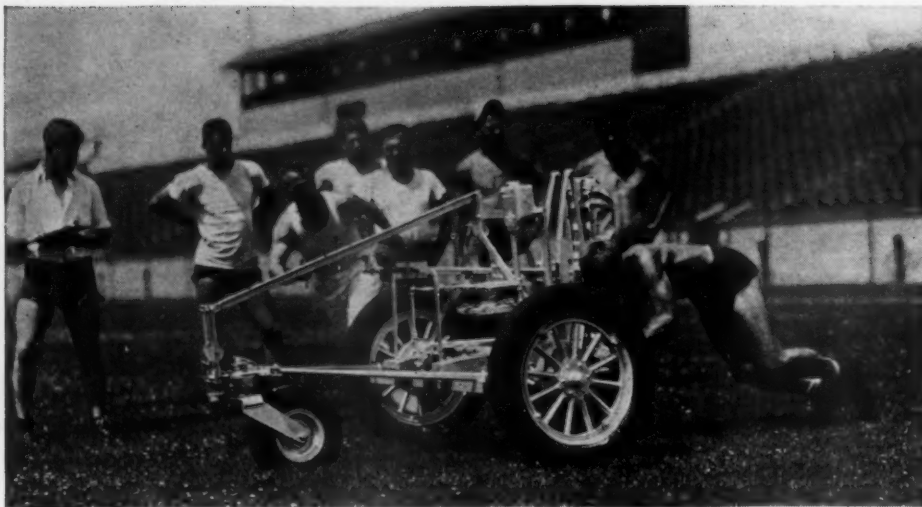
of the charge correctly, can out-charge him.

To prove by actual output in horsepower the importance of fundamentals is to impress the athlete from a new angle. Every football coach knows and tries to emphasize the importance of correct form. To have the fundamentals come to the attention of the athlete as a result of measuring his output is perhaps as significant as the data compiled in these preliminary tests.

Physical power is a recognized essential in many walks of life, and various tests

have been devised to measure it. It is well to know as early as possible the actual power possessed by an individual athlete. "That man has tremendous power," we hear the layman say. Really, he may possess less power than many of the other men on the squad—the difference being in his reaction time. It is our feeling, therefore, that reaction time studies should parallel the power tests.

We are trying to measure native power. It will be possible to have, in addition, an accurate measure of the improvement made by an athlete during a given train-



The dynamometer set up as a pusher. A Purdue University athlete is charging against 110 pounds. A fast follow-through is necessary or the weight drops.

ing period. Shortcomings may also be revealed, serving as a stimulus for more earnest effort. The Purdue Power Tests give some insight into the relation between weight and power. In these tests the men are required to pull a dynamometer, which offers a uniform resistance, for a distance of thirty feet against time. The dynamometer was built by adding a single guide wheel to the rear end of a Model T Ford, an oil pressure pump being geared to the shortened drive shaft. A 110-pound slide weight was added, to which was attached a lever controlling the passage of oil through the pump. A cable extending from the weight to a harness was passed over a roller above the front wheel; this completed the apparatus.

Tests were first run on a group of varsity football men during spring practice. Several weaknesses in the apparatus were found and corrected, the chief of which were oil pump difficulties. A great deal of interest was shown by these men, and considerable competition developed among candidates for the different positions, both line and backfield, when it was found that we were recording their horsepower. Captain George Bell of the 1936 team, a center, and Joe Mihal, a tackle, tied at 1.66 horsepower each for first place.

Early Tests

For the purpose of establishing norms in the various weights, 700 college freshmen were tested, a 75-pound weight being used for this group instead of the 110-pound weight. Tests were given at the rate of seventy-five each class hour. The men wore ordinary street clothing, and a rubber matting was provided to give a uniform footing. All tests were administered by the same person, and those students who fell on the initial charge were stopped and started again. Participation in the tests was voluntary, and a good spirit prevailed. Many of the men repeated the test a second and third time. The coefficient of reliability obtained by retest

method was .82. The following standard formula was used to compute the horsepower:

$$1 \text{ horsepower} = 550 \text{ foot lbs. per second} \\ \text{F D} \\ \text{X horsepower} = \frac{\text{F D}}{\text{T 550}}$$

In this equation, F is force in pounds, D is distance in feet and T is time in seconds. The equation is based on the assumption D that — is constant.

T A chart was posted for the information of those being tested, and the Purdue University campus was horsepower-conscious for at least one week. The chart showed the horsepower at each tenth of a second from 3 to 8.9 seconds; from 1.36 to .46 horsepower. The correct charging form was demonstrated to each group before the tests started. By and large, the heaviest men scored highest in horsepower,

although many men in the middle weights registered greater power than men with forty or even fifty pounds advantage. The lightest man in the group of 700 weighed 110 pounds and developed .70 horsepower. The heaviest man weighed 230 pounds and developed 1.28 horsepower. Thirty-six men covered the thirty feet in 4.1 seconds, registering 1.00 horsepower each. The average man is said to weigh 155 pounds and the norm for this weight is .95 horsepower.

Recent Developments

The same dynamometer has been equipped with a charging block so that it may be pushed rather than pulled. The tests given to date on the new apparatus are similar to those explained above. One advantage in charging the load from the rear is that with this arrangement the angle of the body remains constant; in pulling, the body angle may be too sharp or not sharp enough. In pulling the dynamometer there seems to be some advantage in having the free use of the arms.

Another apparatus used in the Purdue Power Tests is a stationary charging block which records the violence of the initial charge in pounds. This device is equipped with a special plunger, designed by Professor C. N. Hinkle of the Purdue engineering staff, to which device is attached a pressure gauge for recording.

Extensive tests with this apparatus will be run during the coming spring practice, the tests to parallel those with the dynamometer. The two sets of results will be correlated with reaction-time tests.

In the preliminary tests F. B. Burmeister, a varsity guard, holds the record with 1,200 pounds. Sufficient tests have not been given with the charging block to establish the reliability of this apparatus as an accurate measure.



Measuring leg drive. M. A. (Marty) Schreyer, Captain of the 1937 Purdue University football team hitting the driving block for 1140 pounds while Burmeister (left) and Woltman look on.

Stanford University's New Track and Field Facilities

By Hilmer G. Lodge
Stanford University

IN the spring of 1907, just thirty years ago, Stanford University announced the opening of what was termed "the best track and field layout in the country."

Now, in 1937, Stanford University presents what Robert L. "Dink" Templeton, Stanford's Head Track and Field Coach, calls "the finest and one of the fastest tracks in the world!"

The new track and field plant, called Angell Field in honor of Dr. Frank Angell, Professor Emeritus of Psychology and one of the track team's most ardent admirers, was actually used during the spring of 1936, but because the designer, Emanuel B. McDonald, desired to make a complete survey and tests of the elaborate plant, no official announcement of completion was issued until late in 1936.

The Plan of the Track

For several years prior to 1935 the Stanford University Board of Athletic Control had been considering the construction of a new track and field. Designer McDonald spent these several years in gathering information on the construction of outstanding tracks of the country, including those of Edwards Stadium at Berkeley, California, and the Olympic Stadium situated at Los Angeles.

It was with this information, plus the experience he had in the construction and care of the old track—for he was one of the builders of the "new track" of thirty years ago—that McDonald commenced

SEVERAL requests have been received recently for information on the construction of so-called cinder tracks. This detailed account of the building of the new track at Stanford University reveals a formula for track construction as worked out by Emanuel B. McDonald, a man who has made a long and intensive study of collegiate tracks. Hilmer G. Lodge, who gathered the information and wrote this article, has for the past year been conducting studies in track and field events at Stanford.

construction of the present layout on July 18, 1935.

This new Angell track is 440 yards in circumference, measured 12 inches from the pole. The straightaways are 120 yards in length, which makes the curves 100 yards each. The 220-yard straightaway has a width of 25 feet and can accommodate eight 3-foot lanes. If standard 4-foot wide hurdles are used, six lanes can be used at one time. The backstretch is 16½ feet wide and provides for four lanes of hurdles of standard size—used only when the 400-meter hurdles are run. The entire length of the straightaway—the main one—used when the quarter-mile is run around one turn is 233 yards.

The direction of the straightaway is northeast by east and southwest by west. When plans were first drawn, the direction of the track was to be north and south, but, after a careful check on wind direc-

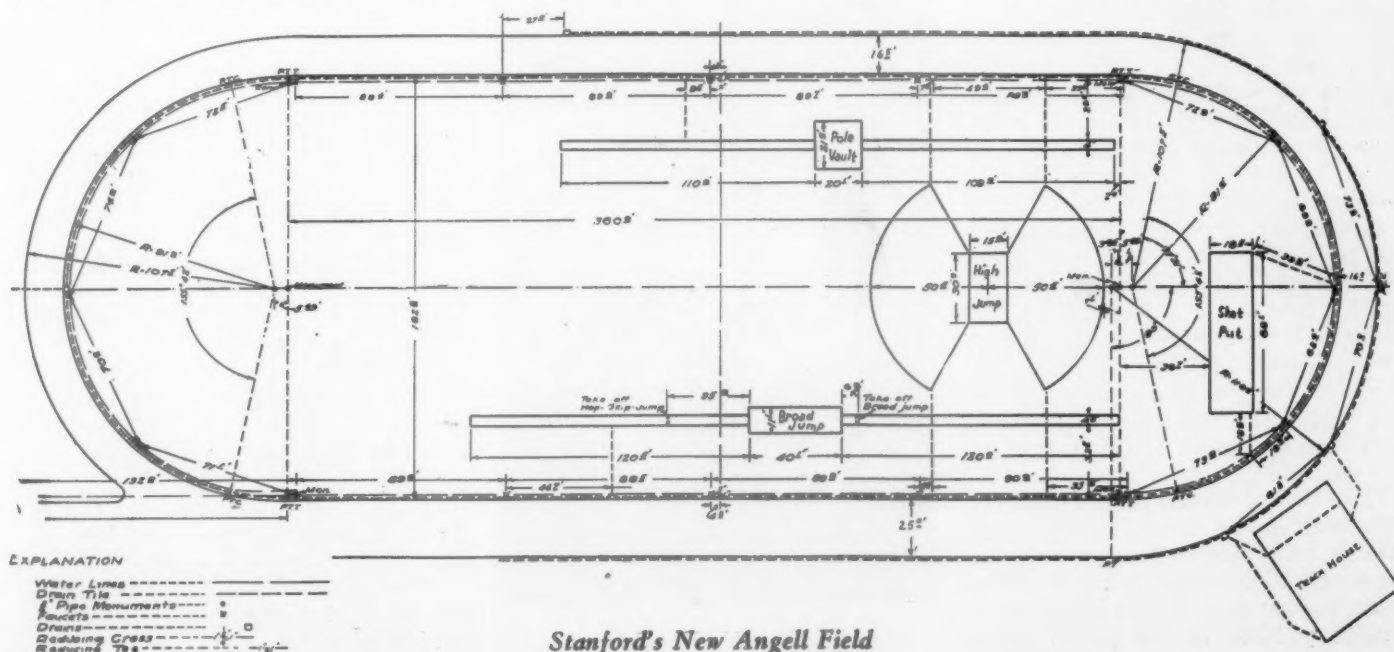
tions, it was found that most of the winds of spring tend to blow from the north and south, which would make either a head or tail wind blowing down the track. The direction of the track causes most of the wind, which is only occasional, to blow across the track. It is planned that no circular stadium is to be erected around the field for fear that some unnatural circulation of air might occur. It is, however, the tentative plan of the Board of Athletic Control to construct, very shortly, a tier of seats, perhaps concrete, to accommodate approximately ten thousand people. This seating arrangement would be located between the start of the high hurdles and end of the 220-yard distance on the main straightaway. A series of temporary bleachers of the portable type are now being used. A crowd of approximately three thousand can be seated.

Excavation

The preliminary work took the form of excavation for a sub-base. This was done with a power grader, the finishing touches being applied with picks and shovels. The sub-base was located 26 inches below the old track surface. To insure firmness, the excavated surface was rolled with a ten-ton steam roller.

On the straightaways the base surface slopes from the center to the curbs and declines 1 inch for every 6 feet. On the turns there is a slope of 1 foot to 25 feet.

(Continued on page 28)



Teaching Batting Fundamentals

By Otto H. Vogel
University of Iowa

THE important fundamentals in batting may be expressed in the following instructions to players:

1. Keep your eyes on the ball. Watch the ball from the time the pitcher starts his wind-up until you can no longer see it in its flight to the plate.

2. Be ready to hit and meet the ball ahead of the plate.

3. Hit at only good balls. This means legally pitched balls which pass across the plate somewhere between your knees and shoulders. (The batting practice pitchers should have control, so that you may have practice in hitting at good balls.)

4. Take a firm, even swing, not so hard that you lose your balance. Your wrists and arms should be relaxed, and not tense and tight. Your position at the plate should suit your own likes and dislikes. Some batters prefer a stance close to the plate, others back and away. Some prefer a spread stance of the feet, others a closed stance. The stance close to the plate is usually assumed by a choke hitter; the stance away, by a batter who does not choke.

Position, Stride and Swing

When a pitcher has a good fast ball and not much of a curve, the batter facing him should be in the rear of the batter's box. This puts the batter several feet farther from the pitcher, and he can watch the ball a bit longer. When the pitcher has a slow curve ball and not much speed, it is a good plan for the batter to move forward in the box so as to hit the ball before its full break. When the pitcher has both a good fast ball and a curve, then the batter should take a normal position in the batter's box.

The stride of a batsman should not be long. It will vary according to the individual batter, however. After the stride is completed, the toe of the forward foot should be pointing somewhere between first base and the infield if the batter is a right-handed hitter, and between third and the infield if he is a left-handed hitter.

If a man strides from the plate or "pulls," it is not a fault unless he hits off his heels. If he cannot reach the outside pitch when he "pulls," he should get as close to the plate as possible to suit his own stride. The important consideration is to have the weight of the body pivot into the swing.

The swing of the bat should start up above the rear shoulder and should follow through practically a 360 degree arc in one complete movement. Before the swing starts, the bat may be held in any comfortable position. As the pitcher starts

WHILE attending the University of Illinois, Otto H. Vogel was one of the leading batters of the Intercollegiate Conference. In addition to baseball, he played football and basketball, winning letters in all three sports. In 1922, he was named on the All-American collegiate baseball team. After graduation, he played for two years with the Chicago Cubs. For a number of years, he has been Head Baseball Coach at the State University of Iowa, where he also assists with the football team.

his wind-up, however, the bat should be held above the shoulder and made ready for the swing.

The weight should usually be distributed equally on both feet before the swing and then shifted from the rear foot to the front as the batter strides and swings. A batter can tell if he is shifting and striding properly, since only in this way can he meet the ball ahead of the plate.

The shoulders should be as nearly as possible on a straight line. The bat is a continuation of the arms, which means that the elbows should be bent very little. A crouch at the plate is not a good thing and should be eliminated if possible. The batter should never move or wiggle the bat much after the pitcher is ready to throw. A smart pitcher will throw when the batter is not set.

The type of bat used depends on the

individual batter. Usually, however, boys have a tendency to use too heavy a bat. A good rule for a hitter to follow is to use a bat weighing an ounce to the inch; that is, a 34-inch bat should weigh 34 ounces, a 35-inch bat 35 ounces.

Hitting slumps may often be remedied if the coach has the hitter change the bat used to either a heavier or lighter one. The coach may also change the batter's stance at the plate, talk with the boy to give him confidence or have the pitchers throw to the strength of the batter so that he gets the "good feel" as he hits the ball. The batter can get this "good feel" only if he has not developed a mechanical fault. If he has developed such a fault as taking too long a stride, keeping his wrists tight, being slow in getting ready to hit, taking his eyes off the ball, then this must be corrected.

Batting Practice

There should be about four times as much batting practice as fielding practice. The coach should not use in batting practice pitchers who are wild. He should use the type of pitcher the players expect to hit against in the next game; that is, left or right thrower, fast or curve ball pitcher. The batting practice pitcher, especially if he is good, should not "put too much" on the ball, or he may destroy the batters' confidence. Pitchers should throw some balls to the batters' weaknesses. This improves the hitters and also teaches the pitchers to look for weaknesses in opposing batters.

In general, a right-handed pitcher to a right-handed batter should pitch high, fast and inside; low, fast and outside; or curve the ball low and outside.

A right-handed pitcher to a left-handed hitter should usually pitch high, fast and outside; low, fast and outside; curve the ball inside below the waist or outside and low. If the pitcher has a good out-drop, the curve may be kept about waist-high, inside, with good effect.

A left-handed pitcher to a left-handed hitter should generally throw low, fast and outside; high, fast and inside; or curve the ball outside and low.

A left-handed pitcher to a right-handed hitter should throw high and fast outside; low and fast outside; or curve the ball the same as a right-handed pitcher to a left-handed hitter.

To the hitter who "pulls," the pitcher should throw fast, outside and low; or curve the ball outside and low.

To the hitter who drops the end of his bat, the pitcher should throw high, fast and inside.



Otto H. Vogel

To the right-handed hitter who does not pivot on his forward foot so that the toe is at least pointing toward first, and who does not pull away from the plate, the pitcher should throw inside and waist high.

To the hitter who lunges, the pitcher should throw a curve outside and low, or a fast ball inside and above the waist.

To the hitter with tight wrists who does not meet the ball ahead of the plate, the pitcher should throw inside, waist high.

The faults in form mentioned above can usually be corrected by the batter. If he is not able to correct these faults, the batting practice pitcher should throw to the weak spots. In this way the hitter should develop strength where he is weak.

Practice Work with Pitchers

By H. S. De Groat
Springfield College

BASEBALL has been called the sport that, more than any other, gives fun to its participants. As a college player once remarked, "Everything about it is fun; the hitting, the running, and the catching and throwing of the ball." The coaching of this sport is a pleasure, too, especially if the coach is fortunate enough to win a good percentage of his games or to give the other teams a real "run for their money."

Baseball is a sport in which the least slip on the part of the coach or of a player in a tight game may mean the loss of that game. The fundamentals of team play must be covered in practice from A to Z as soon as possible, or games will be lost that might have been won. If players are lacking in knowledge of fundamentals, the coach and the team may appear at a real disadvantage in the eyes of the spectators.

Experience seems only to emphasize the need for the coach to review and practice every fundamental related to the sport, even if he has a group of veterans. Any coach of long experience may look back and recall a game in which a veteran with two seasons of experience "pulled a boner" on the base lines or in some other spot in the game. When such an incident occurs, the coach must realize that he has failed to review in the season's practice an essential situation, perhaps because he did not think it was necessary. College and high school players participate in other sports; they are not professionals; they can forget the fundamentals of baseball as easily as the coach can forget to review them.

The Pitching Staff

If there is any spot in baseball where great care must be taken to cover all the fundamentals, season after season, it is in the training of the pitching staff. Here is the center of action on the defense. Here is where the eyes of all are centered, and, if your representative on the mound has not been drilled enough in practically all the situations which may arise, the coach and his team are going to pay for this lack of thoroughness. If the pitcher backs up the base and takes the overthrow neatly and checks the baserunners, he gets credit for knowing his job, and the coach gets credit as well. If the pitcher breaks up a



The Springfield College baseball team lined up, left to right, in the order in which the players batted in the 1936 game with Yale University: Captain R. Smith, second baseman; R. Nuttall, first baseman; W. Huston, shortstop; G. Cella, center fielder; A. Allen, right fielder; F. Buscall, left fielder; N. Keith, third baseman; J. Tracy, catcher; K. Davis, pitcher.

delayed steal or catches a runner off base when he is in scoring position and a good hitter is up, both players and coach benefit.

Without further comment, the writer would like to present some of the practice features that might well be covered with the pitching staff. Assuming that your pitcher is in good physical condition, has good control and knows the proper position on the rubber, what practice fundamentals must he be given to be properly prepared to face the situations which will come up in the games on the schedule?

Some of these need be only mentioned to the baseball coach. Some explain themselves. Others need to be explained in de-

tail. They are not necessarily arranged in the order in which they should be presented to the staff. If the coach is unassisted or cramped for space, he will find it a problem to plan the time when he can practice these things. For the sake of clarity, the following suggestions to pitchers are numbered.

Fielding the Position

1. PREPARE TO WORK WITH THE FIRST BASEMAN ON DRAG HITS. This is a detail that needs practice so that the pitcher, first baseman and second baseman know exactly how they can co-ordinate in handling a ticklish situation. How smart it looks to have the pitcher run toward the bag, catch the ball, which has been scooped up cleanly by the first baseman and tossed two paces ahead of the pitcher so that he has been able to catch it in stride, and then to have the pitcher step on the bag ahead of the runner, while the second baseman takes a position where he can be of assistance in case anything goes wrong! Compare this situation with one in which the first baseman starts for the ball, but, after he has led the pitcher and second baseman to anticipate a toss to one of them, drops back to his bag and lets the ball dribble on to the outfield. Or recall the situation in which the first baseman fields the ball and tosses it to the base, and the pitcher, in turning to catch the toss, fails to touch the base and steps all around it because he is trying to do two things at once, that is, catch the ball and tag the base.

2. PREPARE TO FIELD ALL BUNTS. Three or four pitchers, each with a ball, may take

THE Springfield College baseball team under the coaching of H. S. DeGroat has been outstanding among the collegiate teams of the East. During the 1935 season, Springfield won thirteen of its regular season games, while losing only six. Teams defeated included the University of Vermont, Amherst College, the University of New Hampshire, Tufts College, Williams College, Massachusetts State College and Wesleyan University. The 1936 season was almost as successful. Ten games were won by Springfield from college opponents, while six were lost. Victories were scored over Yale University, Dartmouth College, Boston College, Williams College and Colgate University, among others. In 1935, 146 runs were scored by Springfield during the regular season to its opponents' 89. In 1936, Springfield scored 127 runs in regularly scheduled games, while collegiate opponents were able to total only 87 runs.

turns throwing to the coach at the plate and then fielding the bunts laid down by the coach. Soon each pitcher begins to feel at ease in fielding the ball, keeping his eyes on the would-be runner and throwing the ball. After practice of this kind, the pitcher is not likely to be bunted off the mound.

3. PREPARE TO HANDLE DOUBLE PLAY SITUATIONS. The pitcher needs practice in timing his throw of a ball fielded on or near his mound especially when the throw is to the shortstop running in to cover second base. Some pitchers have trouble in timing a throw of this kind. Some have trouble in placing it so that the shortstop takes the ball in stride.

Pitching Strategy

1. PRACTICE THE PROPER PITCH WHEN THE BUNT IS EXPECTED. Do you as coach have the pitcher throw the shoulder-high ball when a bunt is expected, or do you wish a low pitch? The recruit needs to know which pitch you prefer and should practice it so much that in the game he has confidence in placing the ball in the right spot. Then, of course, he should know what may result.

2. PRACTICE PITCH-OUTS TO BREAK UP THE HIT AND RUN STEAL, OR SQUEEZE. Compare a beautifully executed pitch-out, when a runner is coming in on a squeeze play, with the wild attempt of the raw recruit, whose throw pulls the catcher so far out of position that the runner scores. Then decide whether it pays to give the lads some practice in pitch-outs with runners in action.

3. PRACTICE THE PITCHER'S PART IN TAGGING RUNNERS CAUGHT BETWEEN THE VARIOUS BASES. When and where should the pitcher throw with runners caught between bases. Which way should he run off the mound. The writer's team lost a game last season because a pitcher failed to throw to the proper base. The pitcher caught the ball on the first bounce, and a runner on second base started for third on the hit. The pitcher, instead of attempting to make a one-throw put-out at second, threw early to third, allowing the runner to slide back into second and deflect the thrown ball. The long and hurried throw from third to second resulted in allowing the batter and runner to advance to second and third, respectively, and they scored from there on the next play in a game in which this pitcher allowed but three hits. Proper action would have meant two men out and a runner on first.

Each pitcher must know to which base to go if a baserunner gets in "the pickle," and how to act in the series of plays that follow. He needs just as much practice as the basemen in the run-down of a player caught between bases. He should know that if it is up to him to take the put-out throw he must be off the base about six feet so that the runner cannot slide in safely or run by him without being touched. If the throw comes too early for a put-out,

he must know whether the coach wishes him to chase the runner and then circle to the right and go behind the other baseman in the "Japan style" or stay where he is and play "ante-over" until the runner is caught or gets away.

4. PRACTICE TAKING THE PROPER POSITION FOR BACKING UP BASES ON SINGLES HIT TO THE OUTFIELD WITH RUNNERS ON BASES. Perhaps the coach's defensive system calls for the pitcher to be about twenty to thirty feet behind third and in line with the throw if there is a runner on



Two promising Springfield College hurlers, Frey (left) and Mantor.

first when a single is made. The recruit needs to practice taking this position repeatedly or he will not be there in the game. The same amount of practice is necessary if the coach calls for the pitcher to back up home or take cut-offs. If the pitcher is not where he belongs in a game, he has not practiced enough.

5. PRACTICE A VARIED TIME OF DELIVERY TO THE PLATE AND TO FIRST BASE WITH FIRST OCCUPIED. If the pitcher's leg action is faulty or his delivery is too mechanical, the opposing team will have little difficulty in stealing bases. If he varies the time of delivery to the plate or to first, there is less chance for a runner to get set. It takes practice and thought on the part of some recruit pitchers to develop a habit of varying this timing. They need to be told that they have twenty seconds in which to get rid of the ball once they are on the rubber and have both hands on the ball. They may break up the allowance of twenty seconds in any way they wish. They may throw on the count of one or two; or on the count of ten or fifteen.

6. PRACTICE HOLDING BASERUNNERS AT FIRST OR CATCHING THEM OFF BASE. If the coach insists on having his pitchers adopt certain maneuvers in throwing to first base, the pitchers need practice enough so they can make use of them in

the game without being too mechanical or too obviously novices. For instance, a pitcher may throw to first or to home, using varied hand positions, such as (1) hands at chest; (2) hands at belt; or (3) hands extended and on a level with the chest. Or perhaps on a signal from the catcher the pitcher may toss an easy ball to first, walk well off the mound, receive the throw from first, walk to the rubber and then throw a fast ball back to first. Or the pitcher may use a series of throws to first interspersed with pitches to the batter. The series may consist of the following: (1) throw to first; (2) step on the rubber, bend over and start to bring the hands up together, but throw to first without completing the move; (3) as the foot touches the rubber, throw to first; (4) proceed as in 2 but delay the throw until the hands have come together at the chest; (5) proceed as in 4 but hesitate longer before throwing.

7. PRACTICE CATCHING RUNNERS OFF SECOND, AND TAKING AND GIVING SIGNALS TO WORK SUCH PLAYS. This maneuver requires considerable time if it is to be effective. The co-ordinating of the giving and receiving of signals by the players involved so that the baseman is at the base at the right time needs to be well worked out. The pitcher needs to practice making the short turn and the long turn. The short turn means that he steps toward the base the shortest way and has a view of the base, runner and baseman at all times. The long turn requires him to do a reverse pivot and take his eyes off the base momentarily. It gives the impression to a runner at second base of a pitch to the plate. The coach may recommend one of several possibilities: (1) a short-turn, easy throw to hold the runner close; (2) a pitch-out; (3) a long turn throw to catch the runner. On the long-turn throw, if the pitcher waits until he sees the flash of daylight between the runner and the baseman as the baseman walks up behind the runner and then suddenly runs for the bag, he will time his turn and throw very effectively.

Perhaps the coach recommends a shuttle system in which, first, the shortstop jogs over toward second base and takes an easy throw from the pitcher; then the shortstop runs part way up the baseline before throwing the ball back to the pitcher; and finally the pitcher, faking to go to the mound, turns and throws a fast ball to the second baseman. The latter has come over to the bag to take the throw and tag the runner, who has been drawn off by the shortstop's strategy. This maneuver needs practice if the throws and the faking are actually to work in the game.

8. PRACTICE DIAGNOSING BATTERS. How much a coach can help new pitchers in diagnosing batters is hard to check. The coach may stand behind the recruit and

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The Rightful Place of Football

By Carl Snavely
Cornell University

JUDGED from almost every point of view—the skill and strategy of the players, the small number of serious injuries, the attendance and gate receipts, the thrills and the surprises—the football season we recently witnessed must be regarded as one of the best in the history of the game. It was a very splendid season, but before the winter is over we probably will hear some very severe criticisms of football, even to the extent of some wishes for its complete abolition.

Concerning the critics of the game, I have no complaint to make. In most cases they are gentlemen of intelligence who base their views upon honest and sincere objections to certain features or by-products of the sport. But it is encouraging to note that the number and vigor of their protests seem to be unusually small this year, and, for the time being, football seems to be more firmly entrenched than ever before.

Positive and Negative Influences

However, it requires no stretch of the imagination for one who is familiar with the history of sports or with the capriciousness of public favor to conceive of the possibility that if we should happen to have three or four less propitious seasons we might again find football fighting for its very existence. It would be nothing new, and, unless those who are principally responsible for the ethics and practices of the game measure up to their responsibilities wisely and conscientiously, such an eventuality is almost certain to occur sooner or later.

It is well for us to realize that, when such a situation arises, the mere fact that football has provided an interesting spectacle for thousands of people will not protect it from attack; neither will the fact that in many instances it has provided a successful commercial enterprise, nor that it has brought unprecedented publicity to schools and players. It is especially important for us to realize that the place of football among the activities of school and college life will not be guaranteed by the fact that games have come to be a popular medium of gambling or occasions for carousing and uninhibited behavior. Unless football is fortified with deeper roots and sounder values than these sidelights, its position will never be very secure.

In the long run, the position of football will depend not upon these by-products and extraneous details but upon its value as a part of the educational program. In the interests of the game itself, if for no other reason, football must be directed in such a manner that it will contribute a

THE material contained in this article was originally presented before a meeting of the Sportsmanship Brotherhood in New York City, December 28, 1936. A graduate of Lebanon Valley College in 1915, Carl Snavely holds a master's degree from Bucknell University and has completed most of the requirements toward a doctorate in physical education from Pennsylvania State College. He first achieved national prominence as a football coach through his success at well-known preparatory schools. He had previously coached at the University of Cincinnati and Marietta College. Following an outstanding record as Head Football Coach at Bucknell University, 1927 to 1933, he went to the University of North Carolina, where his teams ranked with the strongest in the South. In the spring of 1936, he was named Head Football Coach at Cornell University, where he is at the present time.

positive and beneficial influence upon the lives of the youth who play the games and support the teams.

Changing Civilization

Fortunately for those of us who are interested in the game, there is a very vital function that football can and indeed must perform. There is a very important place for it in the lives not only of the boys who play on organized teams but of all our youth from the kindergarten to the university. The importance of this function has grown greater and greater with the advancement of civilization, and it promises to become imperative as the evolution of the race continues. Advancing civiliza-



Carl Snavely

tion, although enriching human life, is nevertheless losing and leaving behind many of those needs, struggles, tasks, trials, problems and responsibilities which in the past served best to develop hardihood and strong character. In the languorous ease and security of modern life the boy of today is blessed with luxuries that no monarch could have dreamed of a few years ago, but at the same time he has lost many priceless inheritances which he could not well afford to lose.

The Rugged Past

Consider the boy whose grandfather and grandmother walked for miles through all kinds of weather and over all kinds of roads in order to go to school. This modern boy regards it a hardship if he has to pump a bicycle a few blocks to get there. Before the first tire is worn off his new bike he prefers to ride in the street car or automobile. His grandparents seldom had an opportunity to attend school for more than five or six months in the year, and they spent the balance of the time at hard, steady work in the home, on the farm or in a factory. When they attended school they had to hurry home in the evening to perform the chores about the farm or home, or perhaps to work in a sweatshop. Now the school boy cannot be legally employed in the factory. The sweatshops are gone. The chores, if not performed by turning a switch or pressing a button, are done now by a professional agency or municipal bureau. No need for aching muscles or sweating brow! No need for physical strength! Scarcely any need for feet or legs!

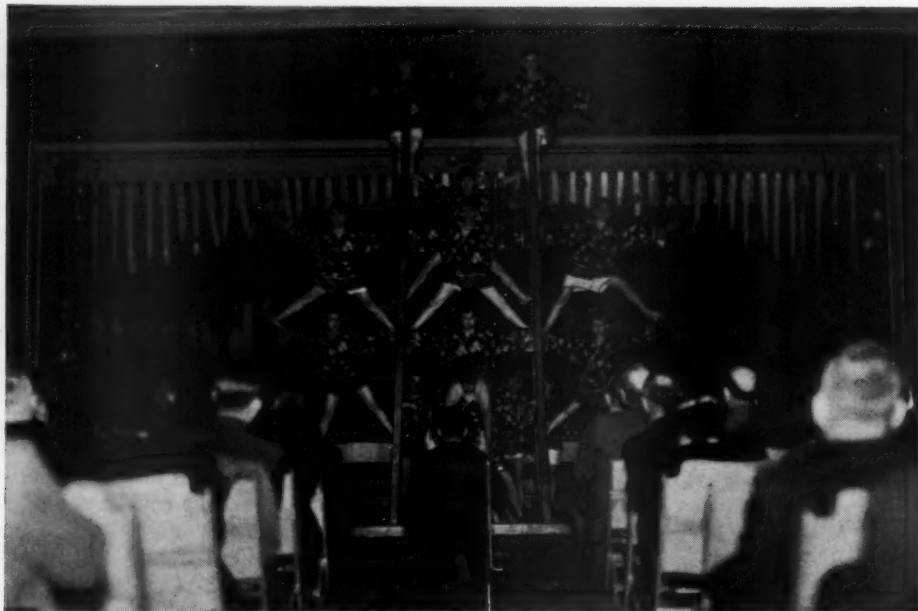
Gone are the woods in which the fuel used to be gathered. Gone are the frontiers and the old self-sufficient homestead in which self-preservation required that fortitude and self-reliance be the first steps in the development of the child.

Gone also is that ancient and honorable bulwark of society, the family woodshed, headquarters not only for muscular development but for the development of character. Headquarters for perspiration as well as inspiration! Headquarters for the administering of justice and for the treatment of academic deficiencies when the monthly report card came home; headquarters for the teaching of good manners and for the eradication of bad habits, indolence and countless human frailties!

The Languorous Present

A great institution was the old woodshed and it performed an important function in the molding and disciplining of our citizen-

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Pyramids by "Japanese Oriental Climbers"—fifth grade pupils.

The Tom Thumb Gym Circus

By Jess Meyers

Lanier Township High School, West Alexandria, Ohio

EACH spring, people of our community, curious to see the newest attractions of our menagerie and main performance, await the return of the annual gym circus.

During the six years we have sponsored the circus, we have endeavored to give our patrons a program of entertainment founded on the work of our physical education department. Each year our circus has increased in size and in merit. It has become a very popular form of entertainment and has always been a great money-maker for the physical education department.

Preparation

The success of this type of entertainment is dependent upon the procedure carried out in the preliminary preparations and upon the general director, who is responsible for the way in which the production is managed.

Each year we vary our program and arrange for a performance that can be put on at moderate expense and yet will embody some of the features of the professional circus on a miniature scale. All attractions demand the revision of technique annually.

It is possible to produce a very creditable performance and avoid lengthy rehearsals by systemizing daily class procedure and motivating toward the goal with the type of work to be given. All preliminary plans are completed six weeks in advance of the staging of our circus, which occurs during the second week in

April. Proper timing of all acts is important to the success of any circus, and it is essential that this, along with the production staff in charge, be given the greatest consideration.

Organization

To begin with, there should be a general director and various assistants to help supervise the different departments. These latter are selected from the student body and are boys who previously have proved their ability to carry out the work assigned them.

SINCE graduating from Ohio University in 1930, where he majored in physical education and helped to organize the first gymnasium circus conducted at the University, Jess Meyers has been coaching and teaching physical education at Lanier Township High School, West Alexandria, Ohio. Each year he has sponsored a gymnasium circus as part of the physical education program of the elementary grades and the high school of the community. In this article, Mr. Meyers explains the general procedure and methods of preparation for the annual event. The popularity of the gymnasium circus has been growing steadily in recent years. Many coaches have learned that it serves a twofold purpose. Not only does it raise money for the athletic department; it also helps to sell the physical education program to the community. Another gymnasium circus program was described in the January, 1936, issue of this publication.

There should be a general publicity and advertising manager, ticket manager, clown master, ringmaster, animal trainer, decorating chairman, property man, feature manager, concession chairman and bandmaster.

Acting Personnel

The performers are pupils from grades five, six, seven, eight and nine, as well as senior high school pupils, who stage special acts.

In planning for our circus, we endeavor to use the general run of pupils in preference to select talent. We use talent only in special acts. We do not require compulsory participation, and 95 per cent of our students here have annually volunteered on their own initiative for circus participation.

Our average troupe consists of 115 boys and girls. We have tried to create a circus atmosphere throughout our preliminary training, to which are devoted the regular class periods in physical education.

Equipment

Our gymnasium equipment is limited. This being the case, we have been forced to construct homemade equipment in our special education class. This equipment serves the purpose and meets our needs. Our present equipment consists of mats, one set of ladders, hand apparatus, flood lights, clown apparatus, a menagerie of animals constructed from hardware, cloth and other miscellaneous items.

We have a collection of costumes and

animal skins, all of which have been made at our school by the girls in the sewing classes. All this equipment is under the supervision of our property man.

Decorating

The circus is held in our gymnasium, and much preparation is necessary. The manager of our decorating committee with his assistants transforms the gymnasium into a typical circus arena.

At the entrance of the gymnasium, a huge archway made of shreds of crepe paper is suspended from the ceiling. The ceiling is covered with a variety of large inflated toy balloons of gay colors, while the walls are covered with numerous home-made pennants.

Our entire lighting system is so rearranged that it harmonizes with our color schemes, a variety of light rays penetrating through the decorations.

Advertising and Publicity

The ideas for posters and banner advertising are conceived and executed in our art classes. Stories and special features are run in the local papers, while photographs of past and coming acts are run in two nearby city newspapers.

Windshield posters of circus design are printed and given to all the elementary pupils for distribution. In addition, our special feature acts, written up in circus vocabulary, attract much attention in the local papers. Advertising space is sold to local merchants, and the proceeds more than cover the expense for publication of programs that are distributed to each home in the community the evening preceding the performance.

Special Departments and Features

A ticket selling campaign is conducted in the school by the pupils, under the direction of the ticket manager, and awards, in the form of merchandise tokens, are given to the six highest pupils. Practically all tickets are sold in advance,



Tim Tim, the Lanier Circus elephant, rehearsing for his opening act.

enabling our ticket manager to assist in supervising the ushers during the evening.

Our bandmaster has charge of selecting a band composed of six students, and each year a different type of band is worked out. A "Kitchen Band" has been used with great success. In this each player features some kitchen utensil upon which he is able to produce rhythmic noise. Many special musical features may be introduced. The players are, of course, arrayed in gorgeous costumes.

The animal trainer is a boy whom we feature as a feminine character. At his direction, all animal acts are carried out. Only a limited number of rehearsals are required for successful acting. We have

been very fortunate in the menagerie field, being able to add several new specimens each season and working out acts that have been modeled after true animal performances.

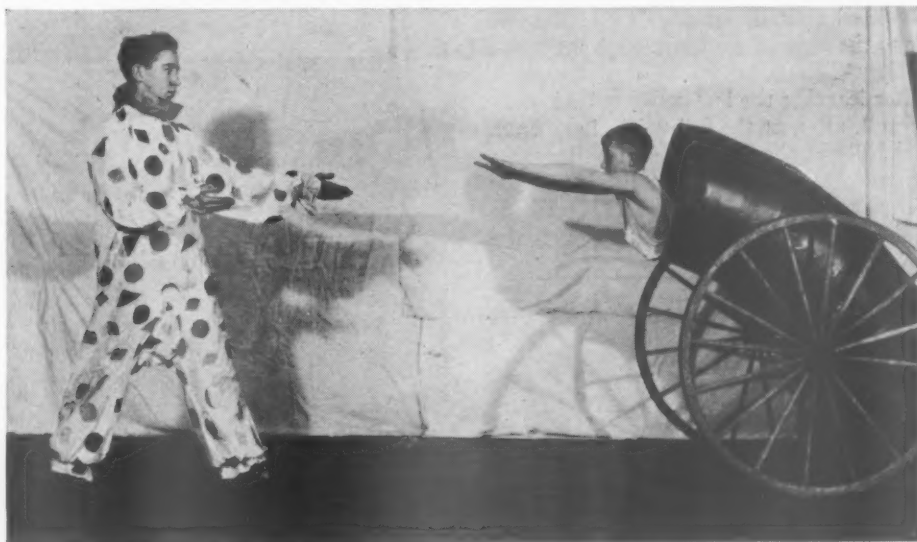
As an added attraction, side shows are conducted under the direction of our feature manager. These are run in classrooms that are curtained off into booths. The success of these added features depends largely upon the boy selected as the announcer, who persuades the crowd, by his colorful announcements, to purchase five-cent tickets and see the "Wonders of the World." These exhibitions are open one hour previous to the staging of the main performance.

We have found it profitable to conduct a concession stand. Peanuts, candy, ice cream and pink lemonade are offered for sale at the opening of the show. We have always realized a profit on this enterprise. At the conclusion of our grand finale, all participants, after checking in their equipment to our property man, are given a circus luncheon of peanuts and pink lemonade, which has always been greatly appreciated by the elementary pupils.

The Clowns

The head clown master is selected upon the basis of past performance. He supervises our entire clown troupe, consisting of ten pupils whom we feature as ambassadors from all corners of the globe. With his assistants, clowns are made up, disciplined in the dressing room, equipped and directed to the floor for the execution

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The Human Projectile Act in which "Pistol Pete" is shot from a cannon.

Tumbling Hints

By Hartley D. Price
University of Illinois

DESCRPTIONS of advanced tumbling tricks are contained in this article. These are in addition to hints in regard to tumbling mats and attire, falling, and the general execution of stunts and routines. There is no attempt in this article to deal in a definite way with the building of the stunts into routines.

Mats

A regulation tumbling mat should be used. This should be five feet in width and at least fifty feet in length. Separate mats should be twenty feet in length and five feet in width. Each mat should be pulled tight in order to keep it straight and free from wrinkles.

Mats should be cleaned regularly in order to prevent infection on ground tumbling. No person in street shoes should be allowed on the mats. Mats should be carried rather than dragged along the floor. The smooth surface of the mats should be on top, while the tassels should be underneath.

In order to prevent injuries like sprained ankles, the mats should be inspected regularly for tears in the canvas and breaks in the padding. If the mats are short and the tumblers want to practice routines, the mats should be tied together to prevent slipping. All lights should be above the mats so that there will be no glare in the eyes of the tumblers.

Attire

The trunks worn by tumblers should be made of a light, strong material such as jockey satin or whipcord; while jerseys made of No. 26 zephyr wool prove satisfactory. The trunks can be made to fit the tumbler well if the elastic inserts are placed around the bottoms and along the belt line.

Soft, lightweight canvas or leather shoes with crepe soles and with the uppers extending to a point just above the ankle are serviceable. The use of a supporter is perhaps necessary for almost all performers. Light cotton socks should be worn; these should be changed after every practice.

The argument regarding barefooted tumblers who have perfected their tricks is still an open one. Perhaps it is advisable for the tumbler to wear shoes while learning a trick in order to avoid injury, but there is no doubt that the danger of contagion, especially from athlete's foot, is greatly enhanced if the athlete wears unsanitary shoes.

Undoubtedly, a comfortable and at-

tractive uniform promotes good tumbling.

Warming-Up

In order to avoid strained and pulled muscles, it is advisable for the tumbler to warm up thoroughly before beginning his tricks. In this connection, the use of the stall bars, calisthenic exercises or general limbering work is recommended. *The athlete should never tumble before engaging in these preliminaries!*

The muscles should have good tonus before the athlete engages in a tumbling routine. The tumbler should not perform directly after eating. He should allow at least three hours to elapse after each meal.

When the tumbler starts his practice, he should proceed from the simple to the more difficult and strenuous tricks. He should include forward, backward and sideward stunts.

Description of Tumbling Tricks

The following directions explain for the tumbler several advanced tricks. They should not be attempted by the beginner.

HALF-TWISTING BACK SOMERSAULT—Unless you are capable of executing a back somersault, you should not attempt a trick of this nature. At maximum height, throw the head and shoulders either to the left or to the right. (See Illustration 2.)

FULL-TWISTING BACK SOMERSAULT—After learning the half-twisting back somersault, attempt the full-twist. Leap from the balls of the feet; reach for the twist before attaining maximum height; throw the arms and the shoulders either to the right or to the left; continually pull the

head and shoulders to complete the twist.

ONE-AND-ONE-HALF TWISTING BACK SOMERSAULT—After accomplishing the full twist, attempt the one-and-one-half. Attain height; pull either to the right or to the left with the head, hands, arms and shoulders until the twist is complete. Illustration 3 shows the performer coming out of the trick on one foot to continue any series.

DOUBLE FULL-TWISTING BACK SOMERSAULT—The above mentioned back somersaults lead up to the double full-twist. Concentrate on the twist. Pull constantly with the head, arms, shoulders and hips until the twist is complete. Height is very necessary. (See Illustrations 4 and 5.)

STANDING HALF-TWISTING BACKWARD SOMERSAULT—Attain height; clutch the knees; pull or turn the head and shoulders either to the left or to the right.

STANDING FULL-TWISTING BACKWARD SOMERSAULT—While attaining height, pull the head, arms and shoulders either to the left or to the right; keep pulling until the trick is complete. This stunt may be done either in a tuck or a whip-back position.

STANDING LAY-OUT BACKWARD SOMERSAULT—This stunt rarely is done. Height is of utmost importance; after it is attained, the head is snapped back vigorously and the body is kept in an arched position.

FRONT SOMERSAULT LIFTING UPWARD

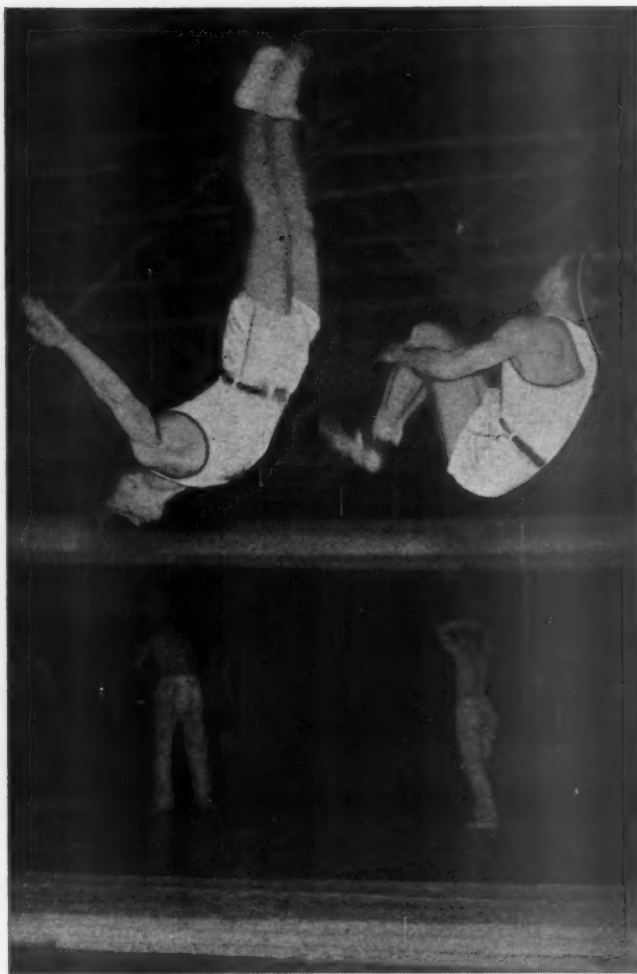


Illustration 1—Lay-out and tuck-back somersaults in unison.

SECOND in a series, this article makes no pretense of dealing with elementary tumbling. Hartley D. Price, for several years Assistant Professor of Physical Education and Varsity Gymnastic Coach at the University of Illinois, is temporarily at New York University on a sabbatical leave of absence. Like the present article, the one published last month contains descriptions of several tricks in advanced tumbling.



Illustration 2—Half-twisting back somersault. The tumbler is coming out on one foot for continuance of the routine.

WITH ARMS—Start off with a run. With the spring from the mat, lift the arms vigorously; at maximum height, clutch the knees closely to the chest; duck the head to the chest. (See Illustration 6.)

STANDING FRONT SOMERSAULT—Spring up, throwing the hands upward; grasp the knees; pull them to the chest as the head is ducked. Illustration 7 shows the



Illustration 3—Back somersault with a one-and-a-half twist. The tumbler is coming out on one foot to continue with the routine.



Illustration 4—Back somersault with a double full-twist.



Illustration 5—End of a back somersault with a double full-twist.

trick before the knees have been clasped.

GAINER BACK SOMERSAULT—Take two short steps and throw one foot upward and backward, lifting vigorously with the arms and throwing the head backward; grasp the knees and hold the tuck.

BACK-FRONT SOMERSAULT—First execute a back somersault. The feet must drop at an angle; the hands must be overhead. Strike the mat hard; throw the hands up; grasp the knees; duck the head. Note position of the hands and the angle of the feet in Illustration 7, which shows the student coming out of a back and getting ready for a front somersault.

Tumbling Cues for the Performer

1. Never change your mind after the trick has once been started.
2. Keep the eyes open while tumbling.



Illustration 6—Front somersault; the tumbler is using the arm lift.

3. Keep the tongue from between the teeth.

4. Never turn the head unless you are trying a twisting trick.

(Continued on page 37)



Illustration 7—Coming out of a back somersault and preparing for a front somersault.

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JOHN L. GRIFFITH, Editor

The Football Rules Committee

THE Football Rules Committee is to be commended, first, because it made in its recent meeting very few changes in the basic rules of the game, and, second, because it added a few necessary refinements to the code. We understand that it is the policy of the present Committee to stabilize the rules in so far as possible. This does not mean that the football code is or should be inflexible. Football is a changing game, and from time to time it may be found necessary to make some modifications in the rules. However, football has pretty much come of age, and, if the public is to understand the rules, it is important that they be not changed radically from year to year.

One who frequently attends big league baseball games has no doubt noticed that the spectators pretty generally know the baseball rules. This, however, is not true of the spectators at football games. If the football rules are not materially changed for a number of years, it is reasonable to believe that the students and the general public will soon understand the plays and the decisions of the officials.

In our judgment, the public, the coaches and the officials have been for a number of years to too great an extent rules conscious. We have a good game. It does not need or require major alterations. When the time comes that the overemphasis which in recent years has been placed on rules changes is diminished, then we may expect that the attention of the sports writers and the spectators will be more largely directed to the game itself. Such a condition is highly desirable.

Buying Service

A PERSON of our acquaintance purchased insurance policies from two of the best known, well established companies. The rates in the two companies were about the same, and each policy was satisfactory from the standpoint of the purchaser. However, the agent who handled the account for Company A through all the years that the policy was in force rendered unselfish and excep-

tional service. At different times during the life of the policy, the agent in question advised changes in the terms of the policy and on its maturity closed the transaction to the satisfaction of the insured.

On the other hand, the agent representing Company B apparently felt that the transaction was closed so far as he was concerned when the first premium payment was made. When the policy matured, four or five different people in the company office handled the case, and the purchaser of the policy was put to a great deal of trouble.

Frequently, coaches buy athletic goods from fly-by-night concerns which perhaps sell the merchandise at a cut rate. These concerns, however, do not and cannot render the service that an established dealer or manufacturer can render, and consequently those who have been purchasing athletic goods for any appreciable length of time have learned the value of buying service along with goods.

Very few men who purchase athletic supplies have the facilities for testing the merchandise that is sold on the market. In other words, they must very largely depend upon the integrity of the seller. A reputable house will protect its name. Such a concern not only has been in business for a long time but expects to remain in business for a long time yet to come. The personnel of such an organization realizes its obligations to the buyer. It will not purposely oversell and it will at all times keep the best interests of the purchaser in mind. Price is not everything. Service and character are more important than price.

Destruction vs. Construction

THAT those who are interested in the general good naturally divide into two groups is generally recognized. First, there is the group which may be called the conservative or constructive, group. Those who find themselves in this category recognize, of course, that evil exists in the world, but generally they devote their time and efforts toward the preservation of the good and to the task of emphasizing the ideals of society.

Those who embrace the destructive philosophy feel that their task is that of uprooting evil. Generally, they have a rather pessimistic outlook on life and, while they serve a useful purpose, their task as they see it consists of tearing down rather than of building up.

The ills of athletics have been vastly overemphasized. That there are evils connected with school and college athletics, no one will deny. The question, however, is whether or not more good may be accomplished by constructively attempting to develop the good than by continually calling attention to the bad.

Anyone who has been patient enough to read the editorials which have appeared in THE ATHLETIC JOURNAL during the last fifteen years realizes that the Editor is of the constructive school of thought. He agrees with the child psychologists who insist that parents should suggest to their children what is desirable for them to do rather than dwell con-

stantly on the things that they should not do. The coaches are frequently to blame because in their group meetings they find fault with the acts and practices of their competitors. Sports writers frequently sit in on these meetings and they quite naturally gain the impression that school and college athletics are inherently bad. If those who have the best interests of the game at heart will devote more thought to the values that are inherent in amateur athletics and will look more for the good than the bad, we are constrained to believe that the game will be immeasurably improved.

Rules and Decisions

IT is not necessary to suggest to athletic men that they cannot have a good game without rules. In some of the loosely organized games, the rules may be in the nature of traditions or customs; nevertheless, two competitors could not enjoy a contest unless both respected some kind of rules or agreements covering the competition.

Not only are rules necessary, but, at any rate in the highly organized team games, an official or officials are required to interpret the rules. Very often an official's decision is of the hair line variety. Two men at the end of the 100-yard dash may be almost even at the finish, but, if one breasts the tape a quarter of an inch ahead of the other, he is the winner, and a courageous finish judge will so render his decision.

It goes without saying that officials, being human, will err. However, someone must make the decisions, and good sportsmanship requires that the contestants accept the decisions gracefully. If the rules are not satisfactory there is an orderly way of bringing about a change in the rules. If a coach were to attempt to select umpires with the understanding that the officials in question would render decisions always in favor of this coach, then not only would the officials be degraded but the man who selected the officials would be considered outside the pale of good sportsmen.

As coaching methods improve, the decisions on such plays as interference with the forward pass will become more and more finely drawn. It is easy to pick the winner when one man finishes the course ten yards ahead of his nearest competitor. It is not so easy to render a decision on a close finish. What we are trying to suggest is that we should devote more time and thought to teaching the players to compete in accordance with the rules and to selecting competent officials. He who would change the rules when the game is on is indeed a poor sportsman.

Help Youth to Help Itself

THE Chicago Youth Week Federation has adopted for its motto this year the slogan, "Help Youth to Help Itself." Apparently during the last few years some of our young people have had the notion that the world owes them a living. They have been living in an abnormal time. It has not been easy for those graduating from school and college to find em-

ployment, and some quite naturally have gained false impressions of life and society's obligations to them. We need to assure them that when a child is born in America he does not inherit part of the wealth that others have gained. All that we can do is to give him an opportunity. This is being done by the schools, the churches, the welfare societies, business men's organizations and other groups.

In athletics, the coach gives to every lad who desires it a chance to try for the team, but the boy is not guaranteed a place on the team. The school or college provides his uniform, gives him medical care and attention and also sees to it that he has efficient coaching. Aside from these things, it is up to the boy. Some lads are possessed of more initiative than others. However, initiative, perseverance and courage are qualities of character which make for success, and as yet no substitute has been found for these virtues.

There appeared in the press some time ago a story about a lad out in Oregon whose heart was set on receiving an appointment to West Point. He thought that the best way to get the appointment was by camping on the trail of his congressman from that state. This boy, according to the report, got on his bicycle and rode clear across the continent to Washington. He had not been there twenty-four hours until he obtained a job near the House of Representatives. He frequently contacted his congressman, but the appointment was not forthcoming, and Congress adjourned. The representative in question took the train back home, and the boy got on his bicycle and rode back to Oregon. It is not known whether this lad received his appointment to West Point, but the chances are that he will take care of himself and that some way, somehow, he will succeed in accomplishing the things that he sets his heart on doing. The coaches of this country have a better opportunity to instill the spirit of self-reliance and independence in the young men who are members of the school and college teams than anyone else. The boy who sulks and waits for the world to provide his living will be sorely disappointed. It is not kindness to sympathize with the lad who alibis defeat.

The Basketball Coaches Meet

THE National Association of Basketball Coaches will meet in Chicago on March 14, 15 and 16. The various coaches' associations have made and are making a worthwhile contribution to school and college athletics. The men who attend these association meetings become better acquainted. It is an old saying that if you know a man and understand him you cannot help liking him.

The coaches' associations are helping to develop a professional spirit. Coaching is a profession, and in the last analysis the coaches have the opportunity of safeguarding and improving their profession.

The National Association of Basketball Coaches is in good hands. The men who are directing the policies of the organization have the best interests of the game at heart. Any coach who attends the meeting in Chicago should be benefited thereby.



An exterior view of the recently completed Swarthmore College Field House.

The Swarthmore Plan of Sports Education

By Mark MacIntosh
Swarthmore College

THE Department of Physical Education and Athletics for men at Swarthmore College has three principal administrative divisions, as follows:

I. INTERCOLLEGIATE ATHLETICS: 1. Baseball, 2. Basketball, 3. Cross-Country, 4. Football, 5. Golf, 6. Lacrosse, 7. Swimming, 8. Soccer, 9. Tennis, 10. Track.

II. INTRAMURAL ACTIVITIES: 1. Basketball, 2. Indoor Relay Carnival, 3. Softball, 4. Touch Football.

III. SPORTS EDUCATION: 1. Badminton, 2. Basketball, 3. Boxing, 4. Corrective Physical Education, 5. Fencing, 6. Golf, 7. Gymnastics (Apparatus, Tumbling), 8. Handball, 9. Lacrosse, 10. Paddle Tennis, 11. Speedball, 12. Soccer, 13. Swimming, 14. Rugby, 15. Tennis, 16. Track, 17. Volleyball, 18. Water Polo, 19. Wrestling.

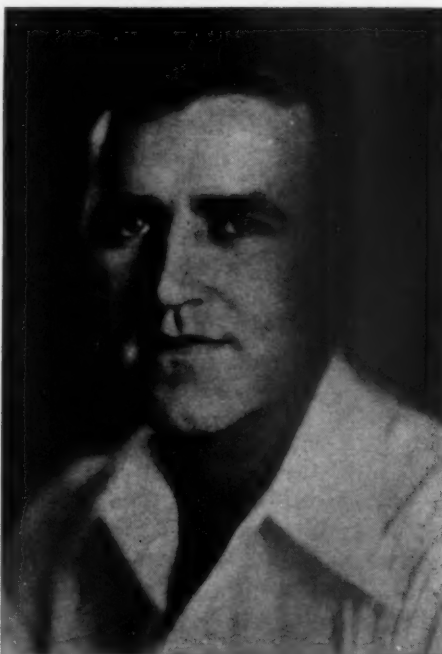
Sports Education and Activities

This article is mainly concerned with the Sports Education Program. As may be seen, this program is extensive in content and requires extensive facilities. But Swarthmore has those. Few colleges in the country are quite so fortunate in possessing so much per capita athletic playing space, both outdoor and indoor.

For outdoor facilities we have enough excellent green turf to mark out fourteen football gridirons, or the equivalent number of soccer, lacrosse, speedball or rugby fields. Seven outdoor tennis courts for men and hill and dale wooded land, owned by the college, sufficient for a four and a

half mile cross-country course, complete the outline of the major outdoor facilities for men students. Incidentally, Swarthmore co-eds have outdoor facilities equal to, if not better than, those for men students, with the exception of the above mentioned cross-country course, and this is used extensively by the co-eds for daily horseback riding.

The new Swarthmore Fieldhouse, just



Mark MacIntosh

completed, with indoor space 100 yards long and 40 yards wide and ten rooms each 25 by 25 feet, is among the best indoor athletic plants possessed by any college of this size.

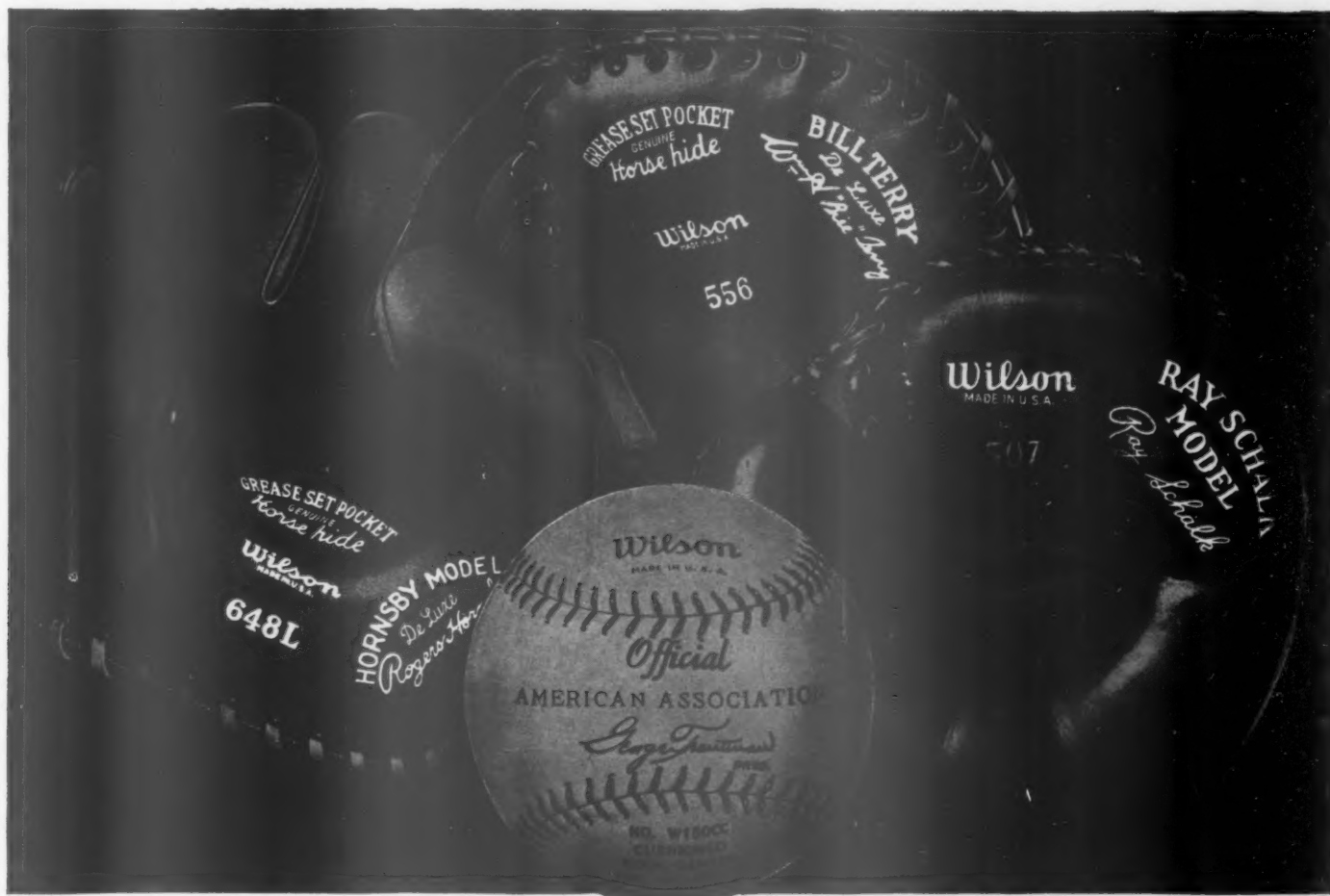
Activity to Fit the Needs

If we divide a student's school life into three periods, i.e., elementary (ages 6-12), secondary (13-17), and college (18-22), we find that his physiological needs will gradually change during these periods, both in the number of hours a day devoted to play activities and in the intensity and vigor of activities. For instance, during the elementary period a normal boy should have an average of seven hours a day of vigorous physical activity. During the secondary period he should have about four hours each day of more vigorous play than during the preceding period. When he reaches college he should have activities similar to high school games, but played with even more vigor and intensity. After college a man's games will gradually change from the vigorous to the milder types.

Our aim at Swarthmore is to afford regular, interesting and vigorous activity under competent supervision and with skilled instruction. There are a few more than 700 students enrolled this year, practically half of whom are men. We have not attained the ideal yet of having 350 men participate daily in vigorous activity, but that is our aim nevertheless.

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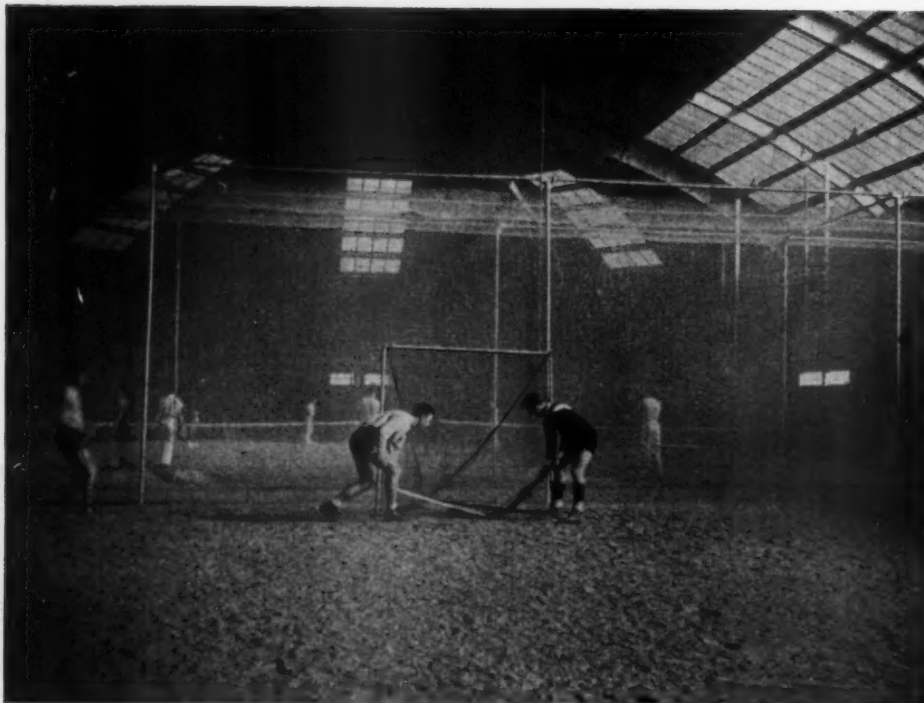
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Lacrosse in the Swarthmore College Field House. On the other side of the net, tennis games are in progress. Nets separate the running track, along the walls of the building, from the game areas.

Some other colleges are prevented from having an extensive physical education program by lack of adequate playing space, or staff, or both. A casual scanning of our catalog would not indicate that students here have less time for physical activities than those at any other college. But, because of Swarthmore's high academic standards, students are almost constantly busy in science and engineering laboratories, seminars, conferences or library projects, or they are otherwise occupied in the search for knowledge. It

is clear that a superior type of student, one who may contribute something useful to the world's work, especially needs an activity program to preserve his health, without which all his mental efficiency will be useless.

A Diversified, Attractive Program

For the reasons just mentioned, there are limits to the time our department can claim from a student; what we can do is to offer, in as attractive a form as possible, a highly diversified program so that

the student may select the maximum of work his studies will allow. We have a positive minimum requirement, which freshmen and sophomores have to meet, of at least two hours a week on two separate days, and participation in at least one individual and one team sport each week. While participation of junior and senior men in the Sports Education Program is entirely elective, they are especially urged to take advantage of the "carry-over" sports, because they will soon finish college and will have no further opportunity to play the major team sports.

Recent Developments

E. J. Faulkner, one of the outstanding tennis instructors in the East, who formerly coached the men's varsity tennis team, has become a full time member of the Athletic Department this year. He divides his time among the men students, women students and the faculty members, giving every individual in college the opportunity to learn this splendid "carry-over" sport. This addition to our staff is expected to prove a most valuable con-

WHILE an undergraduate at Rhode Island State College, Mark MacIntosh participated in the major college sports. Since graduating in 1926, he has taken a master's degree in physical education from Northwestern University. During the last ten years, he has coached football, basketball and track at Warwick, Rhode Island, High School, Lake Forest College and Arizona State Teachers College at Flagstaff. He is now in his first year at Swarthmore College as Associate Professor of Physical Education and Director of Athletics, as well as Head Coach of Football, Basketball and Track.



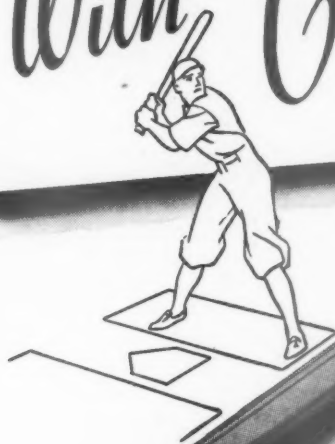
Two games of tennis and several other activities are going on at the same time in this interior view of the Swarthmore College Field House. In the background may be seen football goal posts.

tribution to the Sports Education Program of the college and is already meeting with an enthusiastic response.

Another feature of our program is the practice of bringing to our campus, for exhibition and instruction, outstanding performers and teachers in sports such as golf, tennis, swimming, boxing, track, handball and fencing. This gives our students a chance to "rub elbows" with the champions in the different branches of sport, and get expert instruction and fine inspiration from them.

Physical exertion and perspiration are not, in the main, what we are concerned with at Swarthmore. More than these, we emphasize the idea of instruction and practice in the various sports, so that the student can progress beyond the novice stage and have some success, and hence some enjoyment, in playing the sports. After he has acquired a little skill, he will carry on in a sport without any other enticement than the joy of accomplishment. That, finally, is the idea behind the Swarthmore plan.

HOW TO FACE A PITCHER With Confidence

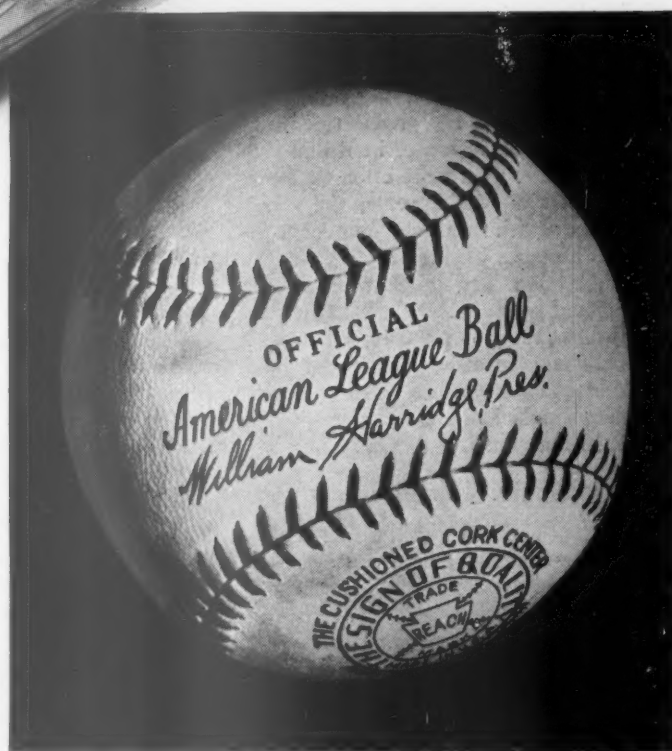


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BASEBALLS



BASEBALL BATS

Self-Analysis Charts for High School Basketball Players

By C. R. May

Community High School, Waterman, Illinois

THE ever present task of the high school basketball coach is to teach the *how* and *when* of fundamentals and team play. The *how* refers to the execution of fundamental mechanics. This execution entails an exact and clear-cut picture of the way fundamentals should look in minute detail.

After each fundamental has been demonstrated and taken up separately and the details of its proper execution pointed out, then drill should be given to attain proficiency. For instance, in drilling on stops, which are used more often than any other mechanics of the game, the coach should distinguish in a very pointed manner the difference between a shift stop to change direction, a running stride stop for shooting and passing, and a one-count stop with feet parallel for reverses, pivots and sudden halts. To attain polish and good timing in body mechanics of the players, the coach should insist on exact responses from each individual.

Importance of Self-Analysis

After hard and exact drill on all fundamentals, stressing the *how*, then the coach should intersperse with the fundamental drills actual scrimmage play at one end of the floor, stressing the *when* of offensive and defensive responses. The *when* of basketball refers indirectly to mechanical timing and co-ordination, but to a greater degree directly to the quality called judgment—the sense of value that is developed in weighing situations and selecting the correct actions to meet them. The developing of good judgment in a player requires many repetitions of the same situations and constant reminders, both verbal and written, plus the all-important self-analysis that he makes for himself.

Building a picture of the ideal player in the mind of a boy is a continuous process. As the picture develops, so will the player. The player must be able to recall and see his actions in past situations if he is to analyze and be able to meet each situation accurately the next time he is confronted by it.

As an aid to the player in making his self-analysis, I use two charts on which the most common faults are briefly indicated. Each chart is mimeographed, and copies of one or the other may be given to the players at the end of each practice, twice a week or as often as the coach believes advisable.

Chart 1 is for use in early season as a

SINCE graduating from the Missouri State Teachers College at Springfield, where he had four years of basketball under the coaching of A. J. McDonald, C. R. May has coached in two Missouri high schools, at Dadeville and at Ash Grove. He is now at the Community High School at Waterman, Illinois. In this article, he describes the charts which he uses in helping his basketball players to analyze their performance.

reminder to the player and as a review of the practice period. It enables the player to see his practice more concretely. It develops his ability to make an analytical criticism of his actions. The player in checking the chart thinks back over the practice period and on the line with the fault indicated puts down the approximate number of times he committed the fault. After a few practices, the player will improve very rapidly in remembering his mistakes, and the coach will be able to watch his progress on the charts with greater accuracy. The player finds it easy to indicate by check mark any physical defect that he has. He feels free to ask questions or state grievances, under the item "Comments or Suggestions," which will enable the coach to iron out difficulties and to mold the spirit of the squad with greater efficiency. I have found that many boys will not make suggestions to the coach orally and that most boys, particularly



C. R. May

superior athletes, are slow to make oral reports of physical ailments.

CHART 1

Name..... Date.....

DRIBBLE—

1. Too low.....
2. Too high.....
3. Slow getaway.....
4. Head not up.....
5. Eyes not up.....
6. Not under control.....
7. Wrong side.....
8. Too many.....
9. Charging.....
10. Should not.....
11. Fail to.....
12. Poor recovery.....

STOPS—

1. Weight forward.....
2. Legs straight.....
3. Extra steps.....
4. Body bent.....

URNS—

1. Standing straight.....
2. Without looking.....
3. Ball out of position.....

Pivots—

1. Swing step.....
2. Straight legs.....
3. Without looking.....
4. Wrong direction.....
5. Ball out of position.....

PASSING—

1. Ball out of position.....
2. Long movement.....
3. Wrong kind.....
4. Weak side.....
5. Too long.....
6. Didn't see opponent.....
7. Jumped in air.....
8. Hook.....
9. Slow.....
10. Too speedy.....
11. Out of balance.....
12. Too hurried.....

SHOOTING SET-UPS—

1. Swinging.....
2. Broad jumping.....
3. No definite look.....
4. Didn't lay softly.....
5. Too long a movement.....
6. Hurried.....
7. Not reaching.....
8. Juggling.....
9. Too far out (one hand).....
10. Wrong hand.....

SHOOTING POSITION SHOTS—

1. Poor set.....
2. Extra motion.....
3. Weight wrong to start.....



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(Books sent on approval in U. S. and Canada only.)

4. Body bending
5. Poor balance on finish
6. Stepping into shot
7. Jumping off floor
8. Hands wide on finish
9. Too much elevation
10. Too direct
11. Deliberate
12. Hurried

GUARDING—DEFENSE—

1. Too much striding
2. Hands at side
3. Not enough crouch
4. Not reaching
5. Hacking
6. Not beating opponent in
7. Not locating ball
8. Watching ball on pass
9. Not watching opponent
10. Feet out of position
11. Jumping in air
12. Playing behind
13. Not playing close
14. Two on one
15. Chance interceptions
16. Too close on end
17. No aggressiveness
18. Outsmarted by opponent

PHYSICAL CONDITION—CHECK—

1. Bad cold
2. Loss of sleep
3. Irregular meals
4. Sore muscles
5. Blisters
6. Headache
7. Light head cold
8. Deep chest cold
9. Sore throat
10. Floor burns
11. Boils
12. Athlete's foot
13. Bad teeth
14. Charley horse

COMMENTS OR SUGGESTIONS—

The Second Chart

Chart 2, which is a revision of Chart 1, is for use primarily for scrimmage and game analysis. Before the practice period begins, the coach may ask the players to pay special attention to passing or to any one phase of the game that he feels they need to stress. As a change, for the next day, he may ask them to remember their defense tactics and be able to analyze carefully this part of the game after practice. As coaches, we know that for a player to acquire a definite knowledge of how to react correctly to a situation requires constant repetition of the correct act and of reminding the player what is the smart thing to do.

CHART 2

Name Date

PASSING—

1. Ball out of position
2. Long movement
3. Wrong kind
4. Weak side

5. Too long
6. Didn't see opponent
7. Jumped in air
8. Hook
9. Slow
10. Too speedy
11. Out of balance
12. Too hurried
13. Pointed
14. Looked directly at target

SHOOTING SET-UPS—

1. Swinging
2. Broad jumping
3. No definite look
4. Didn't lay softly
5. Too long a movement
6. Hurried
7. Not reaching
8. Juggling
9. Too far out (one hand)
10. Wrong hand
11. Wrong kind
12. Fancy

SHOOTING POSITION SHOTS—

1. Slow set
2. Poor set
3. Extra motion
4. No crouch
5. Poor balance on finish
6. Stepping into shot
7. Jumping off floor
8. Too much elevation
9. Too direct
10. Hurried
11. Short
12. Hands wide on finish

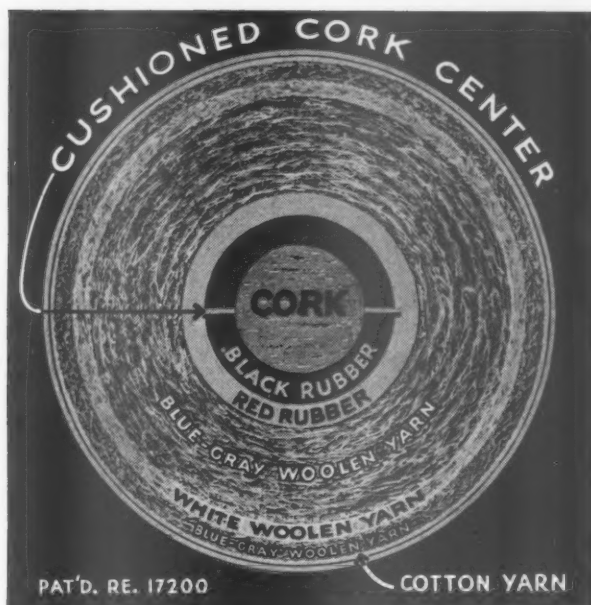
GUARDING—DEFENSE—

1. Too much striding
2. Hands at side
3. Not enough crouch
4. Not reaching
5. Hacking
6. Not locating ball
7. Not beating opponent in
8. Watching ball on pass
9. Not watching opponent
10. Feet out of position
11. Jumping in air
12. Playing behind
13. Chance interceptions
14. Not playing close enough
15. Not going with dribbler
16. Too close on end
17. Unnecessary contact
18. Breaking out ahead of opponent

Results

Some of the very good results that I have obtained in the use of a chart may be summarized as follows: (1) It provides a cooling off period after practice, thereby holding the player a while and preventing him from rushing out into the chill air and contracting a cold. (2) It builds up in the mind of each player an ideal of good form in the execution of fundamentals. (3) It encourages an analytical attitude toward the game. (4) It emphasizes the fact that there is a right and wrong way to approach and master any one of the fundamentals of the game. (5) It provides for

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WHY is the Spalding ball the *official* ball of the National League?

Why is it played in *every* World Series?

For the answer, just look inside this famous ball! Learn how that resilient Cushioned Cork Center provides a baseball center remarkable for its accuracy and retention of shape. Examine the perfection of its construction, from its high-quality wool yarn

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P. S. Speaking of the Spalding Ball, we can't pass up the opportunity to mention its perfect team mate—the famous hard-hitting Spalding bat.

The 1937 line of Spalding Players' Autograph Bats hits a new high in bat quality. Each is Resilite-treated, of course—for extra liveliness and toughness—and each has the famous Spalding "Safety Grip Dots," to aid the player in holding

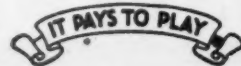
the bat correctly so as to deliver maximum driving power!

So in outfitting your team this spring, be sure to give your boys the benefit of the features that make these Autograph bats outstanding. Included are such players' models as the Dolph Camilli, Earl Averill, John "Bud" Hassett, Ervin "Pete" Fox, Jerry Walker, Sam Leslie, Frank Frisch, Wally Berger, C. L. Hartnett and Phil Cavarretta.

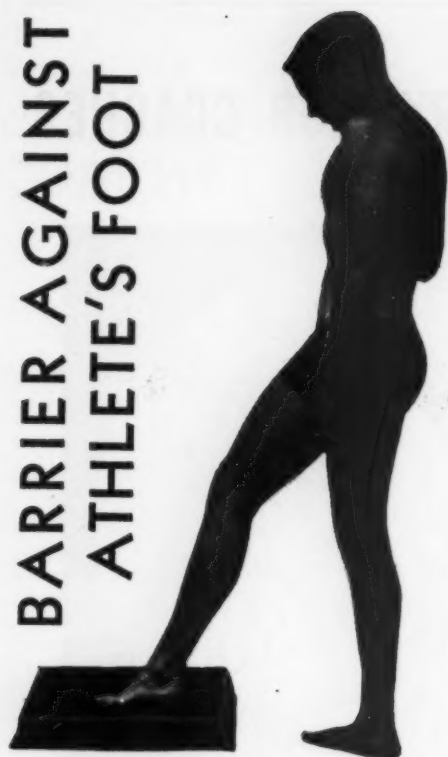


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The patented Dolge Foot Tub is made of black, flexible, non-blooming rubber in 1 piece. Non-slip tread inside. Suction cups on bottom: non-skid. Weighs 25 pounds. Size 20x20 inches. Write for service offer—booklet J-3.



Dolge Foot Tub, inside
Note non-slip tread

ALTA-CO

The C. B. DOLGE Co.
WESTPORT, CONN.

an agreeable after-practice discussion of certain situations. (6) It provides for each player concrete evidence of improvement. (7) It brings out early in the season some very definite weaknesses of players as individuals and as parts of a team.

Stanford University's New Track and Field Facilities

(Continued from page 9)

The contour of the foundation or sub-base is the same as the contour of the finished track.

Construction of the Curbs

With the completion of the excavation work, McDonald immediately started construction of the curbs and necessary forms. It was from a choice stock of Douglas fir that the material was selected. This lumber was creosoted before being shipped to Palo Alto.

For the inner curb, or pole of the track, 3-inch by 8-inch material was used on the two straightaways. On the turns, three 1-inch by 8-inch pieces were placed together in order that the curb could be rounded to the proper curvature. For the remaining curbs this same material, 2 inches by 8 inches, was used. To support these curbs, siding posts, 3 inches by 4 inches by 24 inches, were used. They were spaced 4 feet apart, and placed on the side of the curbs away from the track. The top edge of these curbs was set to what may be called a "finish grade"—that is, flush with the anticipated top surface of the track.

Since the construction has been completed, several inquiries have been made regarding the use of 8-inch curbs, rather than wider pieces, and the failure to extend curbs to the sub-base or foundation. McDonald explains his construction by pointing to the features of the system of drainage, which will be discussed under the next topic. It might be said here that curbing or siding extended to the sub-base would cause a definite obstruction to proper drainage.

As the top of the curbs had been set to the finish grade, after the track was completed a 2-inch by 3-inch strip was attached to the pole curb, and a 1-inch by 2-inch strip protects all of the remaining curbs. The purpose of these detachable strips is twofold—they protect the curbing from athletes' spikes, and do not present a creosoted appearance, for they are painted.

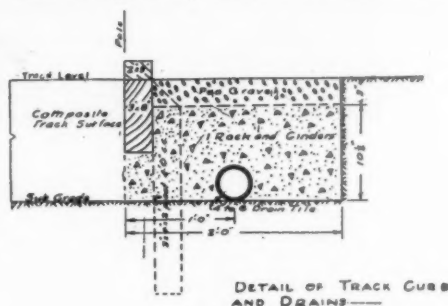
Drainage System

Trenches 2 feet wide were dug flush with the sub-base along the side of the curbs away from the track. In these trenches were placed tile drains. The tiles, which varied in size from 4 to 6 inches—6 inches at mid-distance—were laid end to end,

(8) Best of all, it drills into each player well co-ordinated action, which gives to that player poise. "They look good even getting beat," is the statement made by a rabid fan after watching a team of players who had acquired some of this poise.

and no binding was used. They were encased in a coat of 1-inch clean, crushed rock. This rock was continued to within 3 inches of the top of the curb.

The surface above this drainage system, two feet wide, not only makes a walking path for non-competitors; it also allows trackmen, especially distance men who are desirous of a workout during a severe rainy period, a place on which to jog and run. On the outside of the curb of the main straightaway there is a clear stretch



of 200-yards with no obstructions, which sprinters may use during a rainy period.

It might be mentioned for clearness that these tile drain pipes run parallel to all of the curbs and are on the side of each curb away from the track.

Track Construction

With curbs, sidings and braces firmly in their proper positions, the designer and superintendent of construction brought into play his knowledge of tracks. To many, this track may have been an overnight dream, but to McDonald it represented years of preparation, research and experience, as I have already mentioned.

The first application to the thoroughly conditioned sub-base consisted of 3 inches of base crushed rock. Over this rock was placed a layer of one-half inch of screenings. The purpose of the screenings was to fill in all voids and to secure a smooth surface for the next layer. This mixture was water bound and rolled with a 500-pound, 2-foot wide, hand roller. This same size roller was used to pack all subsequent layers.

Every track in order to have a "jarless," yet firm, surface must be cushioned. Several designers of tracks of recent construction have used burlap sacks, various kinds of wood shavings and other similar material that would tend to make a cush-

ion. It has been found that such materials tend to rot, and after a period of six to eight years the spring-like surface of the track disappears. In the Angell Field track, a new material for cushion has been used. The one type of material which was found that would not deteriorate for a number of years was a fibre material made from redwood bark. It arrived at the construction scene in bales.

In order to apply this bark, which is the layer next in place, a form was constructed 8 inches in width and extending across the track from curb to curb, with a space of 1½ inches between the surface of the previous layer and the bottom of the form. It was in this space that trained workmen applied the bark. A pressure of twelve pounds was applied to the form in order that each section of bark could secure the proper foundation. This form was lifted slightly and moved forward 6 inches with the completion of each application of cushion material. Although the strips were 8 inches long, the form was moved only 6 inches in order that it might act as a guide for the next section and would provide proper support for the section last completed.

It was in conjunction with the application of the redwood bark that the next layer of material was spread. Attached to the rear of the form for aligning the bark, was a 1-inch strip of wood which acted as a gauge for the 1-inch layer of ¾-inch crushed rock, applied every time the form was moved. It was the immediate placing of the crushed rock which held the fibre cushion in place. Each day, the portion of bark and crushed rock layers completed were prepared for the next spread by being sprinkled with water until sufficiently damp, and then the roller was twice run over the surface.

With layers of bark and crushed rock completely in place, McDonald commenced application of a layer of 1½ inches of clay that had passed through a ½-inch mesh screen. It was necessary, in putting this layer on, to keep the crushed rock damp in order to permit the clay to adhere and not sift through to the bark, for, if it did, it would have penetrated the bark and have lessened the resilience of the completed track. The quantity of clay applied was measured accurately by a form operated along the top of the curb, so constructed as to regulate the amounts. This same form was used in gauging all subsequent layers. Thorough sprinkling was necessary for this ply. After sufficient drying, it was rolled four times. It might be mentioned here that this same amount of rolling was applied to all the remaining layers.

The fifth ply was composed of clinkers which had passed through a 1-inch screen and were retained on a ¼-inch mesh. Water was not applied to this covering until after the placing of the next layer.

On top of the clinkers was placed a



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ABSORBINE JR.

covering of 1 inch of clay, the same quality previously used. The reason for not applying water to this layer was to allow the dry clay to sift in and bind the clinkers. Now, with the clay in place, there was a complete watering of the surface. This was allowed to dry out enough to receive the usual amount of rolling.

Again clinkers of the same size used in the fifth ply were applied to the clay surface. This layer of clinkers was $1\frac{1}{2}$ inches in thickness. Water was sprinkled on this coating but not so much as to cause the supporting coat of clay to become soggy. If too much water had been applied, and the clay had become soggy, a surface would have resulted which would have buckled and become uneven when it was rolled.

The eighth layer was a mixture which consisted of clay and cinders screened separately through a $\frac{1}{4}$ -inch mesh screen and then thoroughly mixed in the proportion of two parts clay and one part cinders. This coating was placed over its base, the clinker blanket. Workmen termed this coating "the mattress." It was thoroughly dampened and was rolled the customary four times. The discovery was made that the watering of this layer should be gradual, and for this reason several days were required to complete the task. The purpose of this prolonged watering was to allow the water to penetrate through all of the layers now in place. Again, after this prolonged watering, the customary rolling was duplicated.

For four months workmen had been tediously working on this track and were eagerly waiting for the day when the finishing coat would be applied. Taking five parts clay to four parts cinders and screening them through a $\frac{1}{4}$ -inch mesh screen, separately, the men applied the "finishing coat." This coat was 2 inches in thickness. It was watered and rolled practically the same as the preceding layer of clay and cinders.

In order to complete the actual finish grade of the track, which had been depressed to a certain extent by the rolling and settling, two subsequent layers each of $\frac{1}{2}$ inch in thickness and of the same material as the "finishing coat," have since been added. It is McDonald's intention to apply at various times, when needed, similar coats.

Outstanding trackmen who have had occasion to run on this new track agree that it has more natural spring than any track they have ever run on before. Very few cases of shin splints and no cases of pulled muscles have been reported by athletes who have run on this track; and most cases of shin splints reported were from men who had never been out for track previously. The track will not reach its full "maturity" until the first of May this year. At that time, McDonald feels that the surfaces will have completely settled. It is the winter rains and then the

warm sun which really make a track like this settle properly.

Provision for the Field Events

For a number of years, Will Boyd Ellington, Head Freshman and Assistant Varsity Track Coach at Stanford, has advocated such an arrangement of the field layout that one field event will not obstruct the view of spectators attempting to watch another event taking place simultaneously. To Coach Ellington went the task of arranging the layout of Angell Field.

Ellington designed and made plans for what he calls "the three bear layout—little bear, middle size bear and big bear."

1'- 4 parts Cinder, 5 parts Clay
2'- 4 parts Cinder, 5 parts Clay
2'- 2 parts Clay, 1 Cinder
1½" Clinkers
1" Clay
1½" Clinker Screened 1½"
1½" Clay
1" Crushed Rock
1½" Palco Redwood Bark
3" Macadam Base Rock

DETAILED SPECIFICATIONS
FOR TRACK CONSTRUCTION

He holds that, in general, the longer an event is in progress, the farther away from the spectators it should be held.

Superintendent McDonald wisely carried out Ellington's plans. The pole vault, because it takes most of the afternoon to run off, has been located on the far side of the field from the main spectator section. It is an event everyone can see because it is off the ground.

The high jump is located in close proximity to the main stands. It is near the shotput ring and the broad jump pit, for all three events are usually being run off at the same time, and fans can glance from one event to another without craning their necks to follow one of the events at one end of the field and then another at the opposite end, as most older layouts necessitate.

The javelin and discus sections are located at the left of the main bleacher section. They are entirely on the field turf and are inside the curb. For practice, there is located a discus ring at the northeast end of the track, just below the embankment which supports the north portion of the track.

Because a cushioned surface would hinder rather than aid any of the field event performers, all of the field runways, take-offs and areas are constructed of a clay found in a local deposit. This clay base is 12 inches below the finish grade. The curbs are of the same material as

Dollars for Ideas!

Coach—

- Can you furnish an idea for a better brace?
- Can you suggest a new and improved kind of tape?
- Can you design a better kind of elastic, canvas or felt pad for the knee, hand or shoulder than is now generally available?
- Can you even suggest a **need** for a new type of protective equipment for athletes?
- If you can, enter the

CONTEST FOR COACHES

\$100.00 First Prize—\$50.00 Second Prize—\$25.00 Third Prize

Entries may take the form of actual designs or plans for new or improved protective equipment for athletes, or they may be simply suggestions pointing out a need for which protective equipment should be designed.

The first prize of \$100.00 will go to the contestant who, in the judgment of the Athletic Journal staff, submits the best suggestions.

Two additional prizes, of \$50.00 and \$25.00 each, will be awarded to the contestants who submit the second and third best suggestions.

Conditions

This contest is open only to individuals who at the time of submitting their entries are actually subscribers to The Athletic Journal.

The Athletic Journal Publishing Company is to be the final judge in the awarding of prizes.

The rights to all suggestions submitted will become the property of The Athletic Journal Publishing Company.

The Contest Closes at Midnight, April 1, 1937

No entries submitted which are postmarked after that date will be considered.

Coach, here is your chance to win a cash prize. More important, here is your chance to make a vital contribution to greater safety in athletics or to improve the treatment of injuries.

Address all entries as follows:

**Contest Editor, The Athletic Journal
6858 Glenwood Avenue, Chicago, Illinois**

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Baseball Coaching Course Outline

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Baseball Coach's Data Sheets

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These data sheets can be used by the assistant manager to tell the coach who is hitting with men on base—who is the best lead-off hitter—who is driving in the most runs—who is the best walk getter—who is the best pitcher—and up to the minute data on each player.

All three of the above (Coaching Kit; Baseball Coaching Course Outline; and Baseball Coach's Data Sheets) \$2.75.

Order from H. S. DeGroat
Baseball Coach, Springfield College
Springfield, Mass.

that used in the outer curbs of the track—2-inch by 8-inch material. These curbs encase all of the runways, take-offs, pits and areas. A trench, 2 feet deep, parallel to the curbs of each location, is 6 inches in width. It is filled with clean rock to within 1 inch of the curb top. These trenches are connected to the main drainage system of the track and carry water off the runways and take-offs.

A unique feature of the field layout is that the runways are dual—that is, there

are two runways, one on each side of the various pits. These dual runways serve several purposes. First, preliminaries may be run off on one runway, finals on the other; second, one may be used for practice; third, as rain may cause one runway to be sloppy, the other may be used for competition; fourth, as an unfavorable wind can often slow down the running of a meet, with two runways the vaulters, jumpers and other athletes may use the one best suited to the day.

The Rightful Place of Football

(Continued from page 13)

ship. But it is gone and in its place we now have the family garage. And in the garage stands the family flivver, or luxurious sedan, or whatever it may be. In any case, if the boy can get the key to that machine, before his parents know he is out of the house, he can be fifty miles away in some riotous joint, or in a secluded night club, or in an isolated roadhouse where his associates will exert no uplifting influence; where family restrictions and pride offer no restraint; where evil is made attractive for a price. Unlike the old saloon keeper, professional hostesses make temptations doubly alluring and, unlike the old time barroom attendant, nobody is likely to care whether the boy is young or old so long as he can pay the bill. Even in his own home he may see behavior which would not have been tolerated twenty years ago. His favorite musician probably is a man who croons in a contralto voice. His favorite hero may be a gangster.

Under these circumstances, the youngster is not doing so badly as we might fear. But it is not surprising if he is a bit soft and effeminate; if he shrinks from rough contacts and hard work. Neither is it surprising if he should be lacking in the kind of stuff which enables a man to say "No" and stick to it. Unfortunately there never was a time in the history of the world when the ability to say "No" was quite so important or so difficult as it is now.

Needs of the Present

This situation has created a new and vital need for something in our educational life which places some value upon a sturdy, strong, energetic physique. It has created a need for something that will place value upon stamina and ability to do things.

But it has created an infinitely more urgent need for something which, in the eyes of our youth, regardless of age, sex and description, will place a premium upon such qualities as courage, determination, loyalty, perseverance and unselfishness; something that will place a premium upon love of honor, respect for the rights and interests of others; something to

place a premium on the qualities of self-control, self-restraint and self-respect; and upon such qualities as teamwork, devotion to an ideal, devotion to a cause and to an organization.

We need something to bring out the best that a boy has in him; to put some iron in his blood and some starch in his backbone. We need something to teach him to battle cleanly and fairly, regardless of odds, until he can fight no more and then, instead of reaching for a stone or knife, to take his adversary by the hand and to say, "Good work, Old Man! You were the better man today, but look out! I'll be tougher next time."

Football's Opportunity

If these values can be taught on the field of play rather than on the field of war, what difference does it make if the boy receives a few bruises and sprains? The greatest need in the field of education today is for something that will place a correct evaluation upon the quality of sportsmanship and all that it means in terms of character and chivalry. Here lie both the responsibility and the opportunity of football. Upon the way in which it meets this need will the position of football in the future depend.

This purpose of the game, meeting this need, will not be accomplished by means of football teams composed of professionals hired for the purpose of winning; crowding off the field the boy of normal needs and normal talents. It will not be achieved through a type of coaching that teaches or condones cheating and evasion of the rules. Neither will it be achieved by a half-hearted, namby-pamby type of game which excuses lax training, or accepts careless preparation, or which tolerates a lack of courage. As I once heard Dr. Charles Kennedy say, "In the rigor of the game lies the benefit of the game." When we take out of football the rigorous training, the painstaking preparation and the intense, concentrated effort, we take out of it the very sources from which come the great values of character and morale. The wise coach knows that he must develop these qualities before he can build a

team which will be creditable or dependable.

In concluding, I want to recall the incident of a little boy about seven years of age who came to me at the end of a football banquet years ago.

"Coach Snively," he said, "I want to play football. If I practice hard and study faithfully; if I get plenty of exercise; if I get plenty of sleep; if I eat the things that Mother and Teacher know are best for me; if I never smoke and never drink; if I always play hard and play fair, do you think that when I grow up I'll be able to play football like Hoody?" He referred to a Bellefonte Academy star who had been especially honored that night.

As I look back upon that youngster, I realize that he was a typical example of hundreds, thousands and even millions of boys of various ages and stages in school, all of whom want to play football; all of whom want to be members of the teams which represent their schools and their communities.

It is my hope that the game of football will always be fortunate enough to have at its head such leadership and direction that every boy, big or little, will know that nothing but the very best he has in him will suffice; will realize that he must train conscientiously; will be conscious of the fact that he must prepare for it by living a cleaner and a better life, and that in order to play it he will have to be a gentleman.

If and as long as football is conducted in keeping with these principles, it will be an educative force and an influence for the improvement of our youth, so valuable and so important that no sensible man can question its right to a position of importance in our schools, colleges and national life.

Meeting of Middle West Physical Educators

THE 1937 Convention of the Midwest Physical Education Association, which is affiliated with the American Physical Education Association, will be held in Cincinnati, Ohio, March 31 through April 3. Officers of the Association are extending to athletic coaches and recreation workers, as well as physical and health education teachers, a cordial invitation to attend the meeting.

Among the speakers who will address the convention are Dr. James Edward Rogers, Dr. Clifford L. Brownell, Alice V. Keliher, F. R. Noffsinger, Dr. Laura Zirbes and Dr. C. H. McCloy. Sectional meeting discussions will be led by Elmer D. Mitchell, A. H. Steinhaus, Vaughn Blanchard, Bernard Mason, Grace B. Daviess, Ruth Murray and George T. Stafford.

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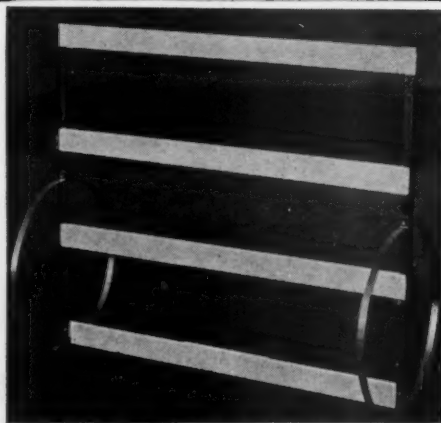
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ball is on the program for the afternoon of April 3. Blair Gullion of the University of Tennessee and Francis Schmidt of Ohio State University are scheduled to appear on this part of the program. Athletic and health motion pictures will be shown on the afternoons of the first three days. Various other features are being planned for the entertainment as well as the edification of the convention visitors.

New Books for the Coach

COACHES and athletic directors interested in promoting squash racquets and badminton in their institutions will find helpful two books just off the press.

John Skillman, Squash Racquets Coach at Yale University and formerly Assistant Coach at Princeton University, is responsible for an attractive volume on *Squash Racquets*. During the past four years, he won the national professional squash racquets championship twice and was runner-up twice. That he is able to transmit his knowledge of the game to others is evident from the records of the Yale and Princeton teams under his supervision. Skillman writes simply and clearly on the technique of the game. Actual plays are described in detail.

For both beginner and expert is *Badminton for All*, by J. F. Devlin, for several years All-England singles champion, men's doubles champion and mixed doubles champion. The book begins with the fundamentals of the game and covers groundwork and stroke production, as well as formations and tactics of both singles and doubles play.

A book for the coach to place in the hands of his boys is that by Dr. C. Ward Crampton, *The Boy's Book of Strength*. Dr. Crampton is a practicing physician who understands boys. He has the point of view of the athlete, the coach, the physician and the teacher. Through fostering in the boys on athletic teams a desire to keep fit, this book may be of untold benefit to coaches. Dr. Crampton was at one time Director of Physical Education and Hygiene of the New York City Public Schools.

The Tom Thumb Gym Circus

(Continued from page 15)

of their respective acts, which are strictly original. Too much stress cannot be placed upon the importance of this particular group of actors, and it is of greatest importance that each act be thoroughly rehearsed and timed. However, I have found that too much rehearsing results in poor acting; therefore, all acts should be limited to four general rehearsals. New acts should be added each year.

The clowns play a very important part in our circus. At every interval between acts their maneuvers keep the performance from growing dull. Each act requires special equipment. With a variety of dress, a number of different types of clowns can be worked up into some very amusing acts.

Staging the Performance

The show is staged in one performance, on the second Friday night during the month of April. The main performance starts promptly at 8:00 and lasts for one hour and thirty-five minutes. A general



Jess Meyers

admission charge of twenty-five cents is made, and the crowd is on hand by 7:30, as no reserved seats are sold.

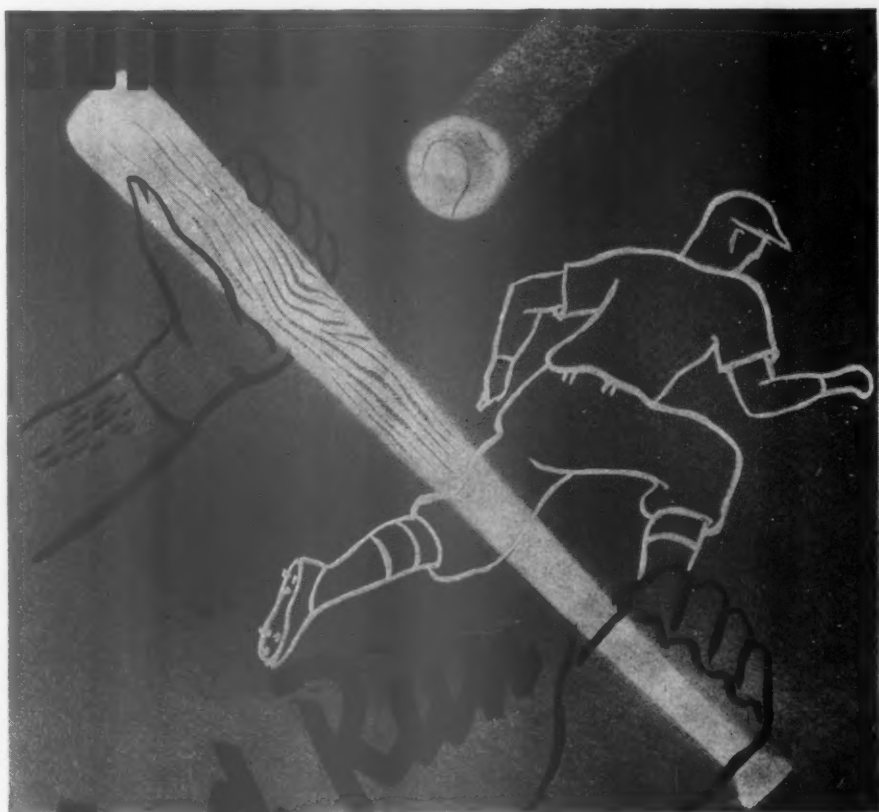
We require all pupils in our troupe to report at the school at 7:00 and go to their dressing rooms for dress preparation, which usually requires twenty minutes. As soon as they are in complete regalia, they march to the assembly room, where last minute instructions are given. Then they wait for the signal for our general parade, which is directed by the ringmaster. Mimeographed program sheets are posted in each dressing room and given to the leaders of each group, who direct their actors to the floor for exhibition.

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The circus opens with a special musical number from our circus band. At the conclusion of this number, our ringmaster makes his appearance, giving a brief speech on the personnel of our troupe and welcoming our patrons to the circus.

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The circus of 1936 included the following acts: Ringmaster's Announcement, Roly Poly Tumblers, Sham Battle Between Wild Indians and Typical Cowboys from the Western Plains, Nationality Act Featuring Couples Representing Twenty-one Nations, Rope Ascension

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Practice Work with Pitchers

(Continued from page 12)

have him state his idea before each pitch. The coach may then check on the results. He may also help the pitcher to see the faults of each batter and to become more conscious of what to look for in diagnosing the batters. This same position of the coach behind the pitcher in practice will tell him much about his batters and catchers; especially if he has become accustomed to sitting on the bench during much of the practice game sessions and has failed to study these players previously.

9. PRACTICE THE PROPER TURN WITH RUNNERS ON FIRST AND THIRD IF THE DELAYED STEAL IS ATTEMPTED OR IF THE MAN ON FIRST STARTS EARLY FOR SECOND. Even an experienced pitcher may fail here. If he steps toward first he must throw, and the man on third may break toward home at the same time. The pitcher must be trained to step back off the rubber and look at the runner on third. Then he has plenty of time to throw to second if the runner on first goes down. If the pitcher steps toward first and does not throw, a balk may be called on him.

10. PRACTICE THE SYSTEM OF DEFENSE AGAINST THE BUNT AND RUN, OR THE BUNT LAID DOWN WITH MEN ON FIRST AND SECOND. With a runner on first base starting on the pitch, and the ball laid down toward the third baseman, where does the coach expect the pitcher to be? If the third baseman cannot get back to take the throw from the first baseman (throwing to third after the put-out), who is going to cover third and receive that throw? If the catcher is down near third to back up or take the throw, who should be covering home? Have you ever seen a team handle this play with every player in the right spot at the right time? Then have you seen this same play tried against another team that has no player covering third in time and that allows the throw to go wild over third, permitting the runner to go all the way home from first base? The coach and his players should have it definitely understood where each man will be on that play. The solution may be that the pitcher covers home or the first baseman covers home after the put-out; the third baseman attempts to get back to third; the catcher runs down to third to cover or to back up the base; or the short-

stop takes third and makes the put-out if the runner attempts to make third on the play and the throw from first arrives in time.

To stop the attempt to sacrifice with runners on first and second, and with no one down, the coach may decide to allow the third baseman to try to hold his bag



H. S. DeGroat

and to have the pitcher cover the territory on his right, as well as that in front of him, and attempt to make the put-out at third. If this maneuver is planned, the pitcher and his infield must practice this enough to be prepared.

Final Word

In conclusion, there are two important things to be brought out. One is that many of us feel that we shall never learn all there is to know about baseball. Another is that so long as a coach handles high school, preparatory school or college baseball players, he will need to stress the fundamentals, season after season, because there are many, many things to learn and little time in which to practice them.

The coach who has experienced pitchers and other players coming to him has an easy job compared to that of the coach who battles, season after season, to ripen inexperienced players and matches them

against stiff opposition. Practice should produce skills and reactions that become almost automatic. This allows the brain of the player to be free to do the exceptional things that are done by experts. Good natural ability, coupled with a keen mind, under thorough coaching results in an expert player.

Tumbling Hints

(Continued from page 17)

5. Visualize a new trick thoroughly before attempting it.
6. Always have a spotter at hand when you are trying a new trick.
7. In almost all tumbling stunts, take off from the balls of the feet.
8. Take a rest between routines.
9. On a twisting trick let your head follow your shoulders.
10. Always throw your hands over your head when you are going for a trick.
11. Do not land flat-footed out of a trick. Land on the balls of the feet.
12. Refrain from chewing gum while tumbling.
13. In tumbling always allow the arms and legs to bend in order to absorb the shock of the body.
14. If you miss a trick, try the same stunt again immediately so that you will not lose confidence in yourself.
15. Practice constantly on a trick until you master it. Do not quit in the midst of learning it.
16. Always overlearn your stunts.
17. Go through your complete repertoire at each practice.
18. Progress from the simple to the complex in your work-out.
19. Tumble every day if possible in order to develop endurance.
20. Do not try new tricks until you have practiced all of your routines.
21. Try to attain perfection in your tricks.
22. Try to do your tricks from a stand as well as from a run.
23. Be sure to quit your practice when your muscles are becoming tired and fatigued.
24. Remember that the tricks offer variable degrees of difficulty for different performers. A difficult trick for one tumbler might be easy for another.
25. A steady practice for one hour is much better than a long-drawn-out practice.
26. Never discourage an individual who is learning how to tumble.
27. Help your team mates always.
28. Always help a team mate to correct his mistakes. In addition to helping him with his trick, you definitely help yourself by making the details of the stunt clearer to you.
29. Try to improve your form every time you attempt a trick.
30. Never admit defeat on any trick un-



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til you have actually tried it. It will surprise you how proficient you can become if you really give yourself a chance.

31. Try everything that you feel like trying when you are enjoying a "learning streak."

32. Wear shoes while you are learning new tricks.

33. Do not tumble where basketballs are being thrown around the gym.

34. Remember that skills are specific. If you want to be a good tumbler, you should practice tumbling. Diving, trampoline and teeterboard work are great sports, but indulgence in them will not contribute in any way to your tumbling. *Skills are specific!*

35. Practice does not make perfect. Only correct practice makes perfect!

36. Become proficient at forward, backward and sideward tumbling.

37. Remember that "Rome was not built in a day." *Be persevering!*

Cues for Falling

1. If possible, fall with the hands and feet pointed forward.

2. Never lay-out when falling.

3. Give yourself to the fall.

4. Never fall with your back toward the mat.

5. Try to look in the direction of your fall.

6. Try to roll out of your fall if possible.

7. *Never change your mind!*

The author wishes to thank William Goldstein and Joseph Giallombardo, University of Illinois tumblers, for their assistance in the preparation of this series of articles.

Tennis Practice during the Winter and Early Spring

(Continued from page 7)

net as he comes in. Some half volleying and taking of the ball on the rise will be necessary, but this is as it should be. After a few volley exchanges at short range, the net man should lob, the baseliner going back to smash. Often the smash should be made at the net man, who attempts to keep the ball in play and in so doing learns to handle speed without flinching.

Richards describes the orthodox way of making the volley as with the wrist in a chop stroke manner, with proper emphasis on bent knees, high racket head and sideways position to the net. A check-up on these important points will often show flagrant violations on the part of beginners.

Intensive practice on volleying in the winter months should pay big dividends

when outdoor match play begins. Many lads stay on the base line and learn a fair game from this position but are completely lost when drawn inside the service line.

It is undoubtedly true that in average competition the boy who can volley well has a tremendous advantage even though the rest of his game is no better or a little less efficient than that of his opponents. Coming into the net and slaying the ball completely out of the reach of an opponent gives a psychological offensive advantage, and the other man absorbs a helpless sort of feeling which is difficult to shake off. Then, too, ground strokes which seemed to be steady and adequate with the opposition on the base line suddenly become wild when the target has been considerably reduced.

A sort of volleying game can be played in the service courts on one side or in an area about the size of a badminton court. After the ball has been put in play, usually with an underhand serve not too severe, the object is to make the other player commit an error. Players soon learn that the way to win points is to keep the ball close to the net and thus make it necessary for the opponent to hit upward. This point brings out the cardinal principle in all volleying, which is to hit a high volley for an outright winner and not merely block it. The point should be won or lost on the first stroke, and the winning points will outnumber errors. I do not mean that a beginner should get reckless and try to kill every shot, but it should be his ambition to learn to treat every high ball in such a manner that it will not come back. During the past summer I heard a former prominent Davis Cup player criticize Budge and Mako severely for blocking their volleys instead of hitting them against the Australians in those memorable last three sets in Philadelphia.

Many volleyers stop too soon in taking the net. Flub shots will go for points when made from directly above the net. Also, the necessity for accuracy in making angle shots decreases as the barrier is approached.

If the ceiling of the gymnasium is high enough, a weak overhead game can be improved by hitting from 50 to 100 lobs a day for a large part of the winter. Ability to kill overhead shots is largely a matter of practice, and the lack of it is what causes many players to falter in this very important part of their game.

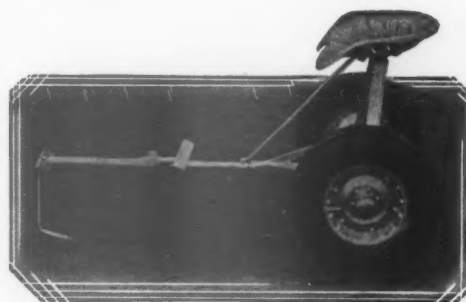
Every player has some parts of his game stronger than others. Would it not be advisable for each player to make a proficiency ladder of his tennis skills with each rung in its proper place? If by constant practice on the weak skills at the bottom he is able to shift them to the top, his entire game will soon rank with the best. Success in tennis comes only after many hours of patient practice.



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Rawlings Mfg. Co., St. Louis, Mo. Please send me information about your footballs, uniforms and protective equipment.

ALL-STAR CAST by Reach

A. J. Reach, Wright and Ditson, New York City. Please send me name of nearest dealer handling Reach basketballs, baseballs and bats.

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Relay Baton Co., 519-21 No. Spaulding Ave., Chicago, Ill. Enclosed is \$1.25 for 1 dozen official relay batons, color

The BASEBALL and TRACK Season Approaches!

John T. Riddell, Inc., 1259-63 N. Wood St., Chicago. Please send me information about Riddell baseball and track shoes.

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Chas. Ringer Company, 7921 Exchange Ave., Chicago. Please send me complete information regarding athletic insurance.

Illustrated COACHING BOOKS

Sayger Sports Syndicate, Tiffin, Ohio. Please send me information about your illustrated coaching books.

To Make BASKETBALL More Interesting

The Simplex Company, Edinburg, Indiana. Please send me Bulletin No. 10 describing your remote controlled scoring machines.

2-in-1 Marker for TENNIS Courts and FOOTBALL Fields

J. Hunter Smith, 6515 N. Maplewood Ave., Chicago. Please send information about your marker.

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Snow-Proof Co., Middletown, N. Y. Please send information about your Snow-Proof for the care of athletic leather.

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A. G. Spalding & Bros., 105 Nassau St., New York, N. Y. Please send me latest catalogue and name of nearest dealer.

FOOTBALL SHOES and CLEATS

Edward C. "Dutch" Sternaman, 2656 Diversey Blvd., Chicago. Please send prices and information on Sternaman football shoes and cleats.

To keep the ATHLETIC FIELD in Condition

Toro Manufacturing Corporation, 3042 Snelling Ave., Minneapolis, Minn. Please send catalogue showing power mowers and rollers.

The Wilson ELECTRIC SCOREBOARD for Basketball

Wilson Mfg. Co., Huntingburg, Indiana. Please send details and price of your Electric Scoreboard.

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Wilson Sporting Goods Co., 2037 Powell Ave., Chicago. Please send me information regarding your baseball equipment. Put my name on your list for new catalogue.

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W. H. Winkler, 7328 Spruce Street, New Orleans, La. Please send information about your Portable Bleachers and 6 Bit "Poor Boy" seat.

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Witchell-Sheill Co., 1635 Augusta Blvd. Please send me complete details on your 1937 line of Spot-Bilt Shoes.

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